



THE RHODESIAN Agricultural Journal.

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JUNE, 1909.

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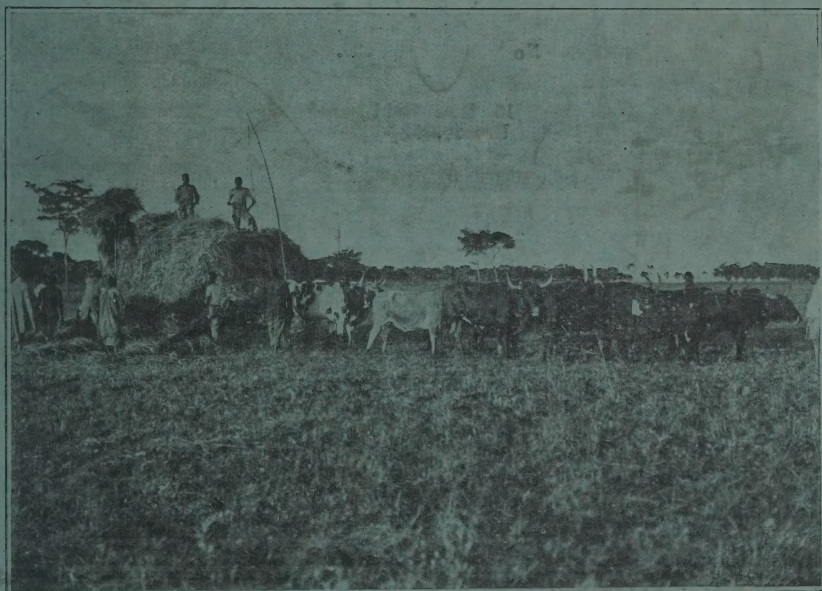


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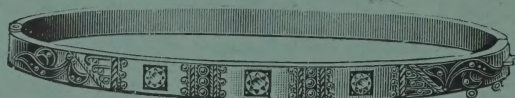
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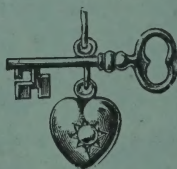
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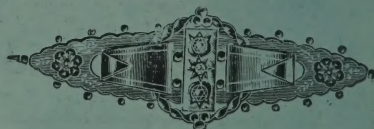
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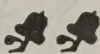
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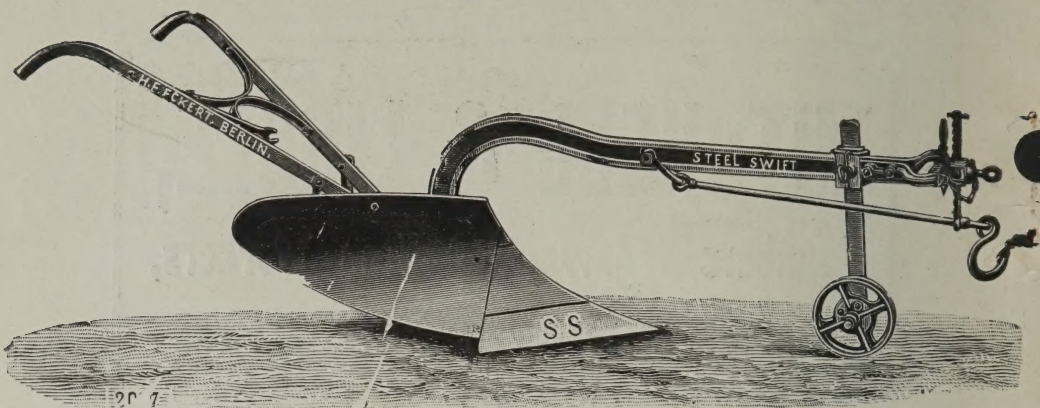
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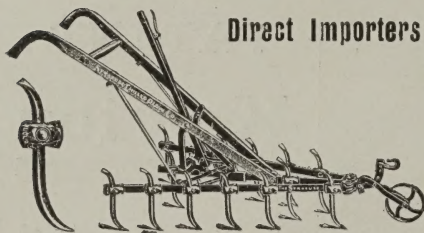
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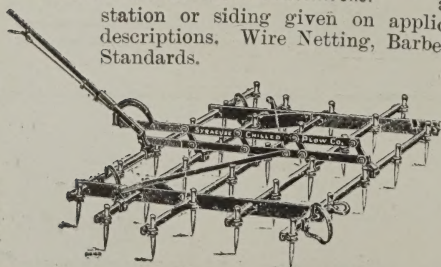
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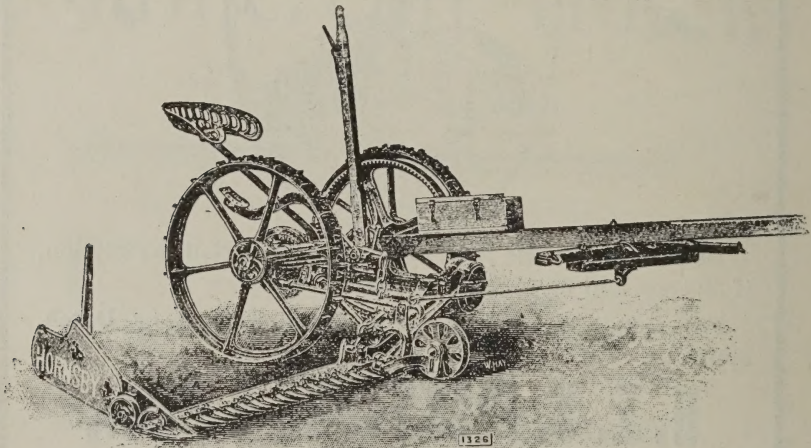
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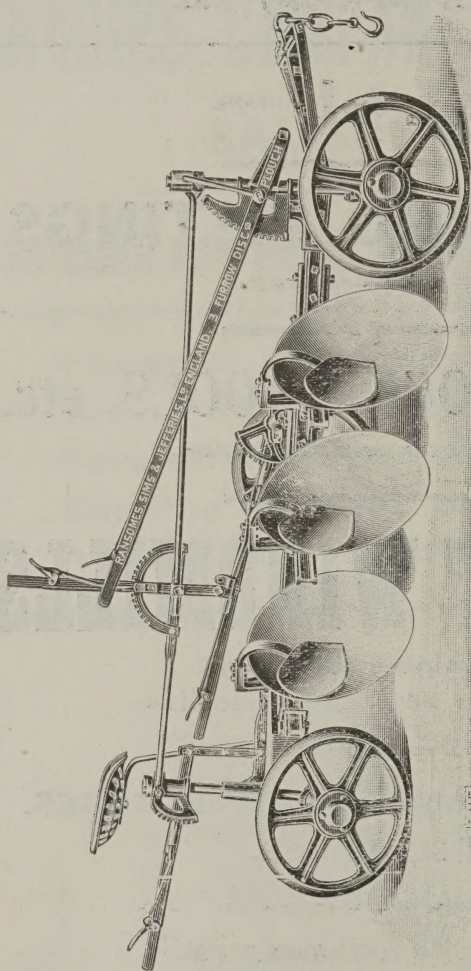
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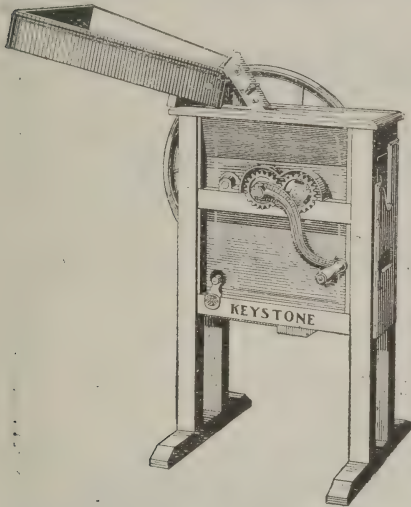
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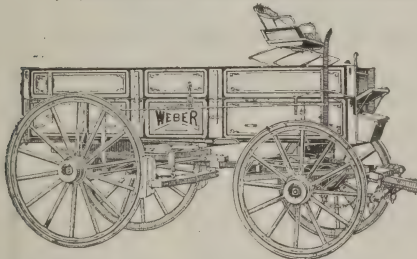
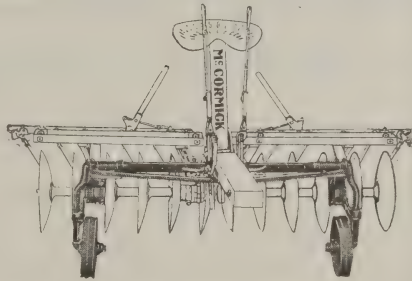
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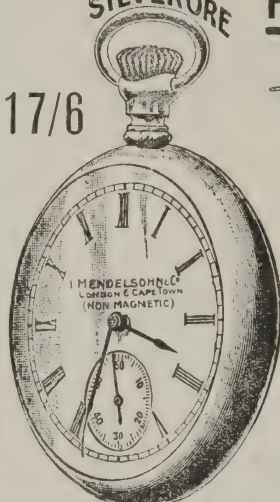
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THE RHODESIAN AGRICULTURAL JOURNAL

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VOL. VI.—No. 5.]

JUNE, 1909.

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Editorial.

THE COMING SHOW SEASON.

There is every prospect of the Agricultural Shows this year quite eclipsing all past records. Not only is there more to show but there is an increased interest abroad and a healthy rivalry coupled with a very apparent desire to see what others are doing and to learn new and better ways. It is the unavoidable result of large farms and a sparse population that opportunities of intercourse and self improvement are rare.

Old settlers, if any can be called old in such a new country, have experience gained at great cost, while recent arrivals bring with them ideas from many different quarters of the globe and no better place exists than the show yard for bartering these assets, for demonstrating what has been done and indicating what can yet be accomplished. The restrictions on the movement of stock may interfere with the cattle classes in some cases, but in the hope that these may be removed in time, the Salisbury Society has decided to make preparations for this all important section.

THE PROPOSED CO-OPERATIVE AGRICULTURAL SOCIETIES ORDINANCE.

The history of the co-operative movement throughout the world has ever been from small beginnings to great achievement. Not without misgivings, and in the face of opposition, the Co-operative Agricultural Society,

established last year by a group of Salisbury farmers, has persisted and expanded, and become such an established institution that already legislative recognition of its existence is called for. This has been found necessary to provide for the registration of such bodies, to secure that they shall have a legal constitution and be capable of being sued and of suing in proper form.

True co-operation can well exist without subventions, grants in aid or other state interference, and now that this necessary formality is being arranged there is no reason why similar organisations should not spring up and spread all over the country.

This matter might well receive the earnest consideration of our Farmers and Land Owners Associations. The different activities possible to co-operative societies are really infinite but are condensed in a clause of the draft ordinance which reads:—"A co-operative agricultural society may, subject to the provisions of this Ordinance, be formed for all or any of the following objects, viz., of:—

(1) disposing of the agricultural produce and live stock of any of its members in the manner most profitable to the society; or

(2) manufacturing or treating on joint account the agricultural produce of its members, and of disposing, in the manner most profitable to the society, of the produce so manufactured or partly manufactured; or

(3) initiating schemes of irrigation or water boring, or of furthering and developing existing irrigation and water boring schemes; or

(4) purchasing, hiring, or otherwise acquiring, and working on behalf of its members, agricultural implements or machinery; or

(5) purchasing, hiring, or otherwise acquiring, and using and controlling on behalf of its members, breeding stock; or

(6) purchasing, or otherwise acquiring on behalf of and supplying to its members agricultural implements and machinery, stock, feeding stuffs, seeds, fruit trees, manure and other farming requisites; or

(7) commencing, acquiring, and carrying on supply stores under a co-operative system for disposing of and supplying agricultural produce; or

(8) commencing and carrying on insurance societies for its members under a co-operative system; or

(9) acquiring and distributing information as to the best manner of carrying on farming operations profitably; or

(10) acquiring by lease, purchase, or donation, and holding, any immovable property in the Territory for the better carrying on of any of the objects of the society; or

(11) raising money on loan for any of the lawful objects of the society; or

(12) any other lawful object which the Administrator may from time to time permit for furthering the interests and development of agriculture in this Territory.

Co-operation aids the wealthy and established farmer as well as his poorer and struggling brethren for whom however it is specially adapted, securing to them the advantages otherwise reserved to the capitalist. The root idea is to profit from the number of individuals, each knowing the financial standing of his partners, accepting jointly and severally the responsibility for debts incurred on behalf of any member, and they in turn being safeguarded by the articles of their association. That much may be done to assist Co-operative Agricultural Societies by Government is true, but the aim of the members of such associations is not primarily to exploit these artificial facilities but, by helping each other, to help themselves.

Attention is directed to the constitution of the new Co-operative Agricultural Society at Umtali given on another page.

PROPOSED NURSERIES ORDINANCE.

In view of the increasing attention which is being paid to the propagation of plants and trees, particularly of grafted fruit trees for sale in Rhodesia, it has been considered desirable to institute safeguards for the prevention of the spread of disease to orchards and farms from the nurseries.

Similar legislation exists in all the South African Colonies, and in all other advanced agricultural countries, and in addition we are protected from the introduction of pests from abroad by effective Plant Importation Regulations and inspection by the customs authorities.

But a possibility of diseases and insect plagues being spread broadcast over the land now exists from local nurseries, and this it is proposed to combat by periodic inspection coupled with compulsory destruction or treatment and quarantining of diseased plants until cured.

Provision is made for registration of all nurseries from which plants and trees are sold, for controlling distribution from them, and imposing suitable penalties for breach of the regulations. In this way it is hoped to prevent much loss to fruit growers and others and to ensure the sale to them of nothing but sound, healthy material,—a great boon.

FOUL BROOD.

The primary aim of a draft Ordinance introduced into the Legislative Council this season, is "To prohibit or regulate the introduction into this Territory of Animals or Substances which might be injurious to the interests thereof" is to bring the laws of this Territory into conformity with those of the neighbouring Colonies for the protection of South Africa from danger in the form of an insidious disease affecting bees, and termed "Foul Brood." This is the cause of considerable losses to apiaries annually in Europe, America and Australia.

By exercising certain restrictions on the importation of live bees, beeswax and honey, all of which are possible carriers of infection, South Africa can be preserved from risk of this malady without seriously incommoding commerce in these articles and towards this end the Ordinance is directed. The form is, however, made generally applicable to any similar cases which may in future arise.

A PRIZE COMPETITION. £15 GIVEN AWAY!

Details will be found on another page of a scheme for giving prizes for collections of plants of economic importance. Much is hoped for from this effort and it is hoped that the interest and help will not be confined to school children only although the prizes are for them only.

CATTLE FROM THE CAPE AND ORANGE RIVER COLONY.

The freedom of Southern Rhodesia from Lungsickness and the insidious means by which the disease is propagated render it imperative that the utmost caution be exercised in introducing cattle from the south.

Amongst other precautions taken importers are required to sign a declaration (Annexure B. of Government Notice No. 110 of 1908) to the effect that the herd from which the imported animals are brought has been free of the disease and of all chance of infection for over four years. It has recently been found desirable to amend this form, rendering more strict the assurance that the animals have not been in contact with cattle of antecedents unknown in this respect, and expressly excluding stock which has been exposed for sale in any public market or stock fair. Those interested in the subject should not fail to make themselves familiar with these alterations. The original notice and the amendment are printed on another page.

THE IRRIGATION CONGRESS.

The Government of the Cape of Good Hope has called together a congress of all interested in Irrigation, to be held at Robertson, Cape Colony, on the 18th May, a subject of prime importance to South African Agriculture. Rhodesia was invited to send a representative, and Mr. J. A. Edmonds, President of the Agricultural Union, has kindly consented to attend on behalf of the Territory.

This is the most influential conference of the sort which has yet met and papers of much scientific and practical interest will be read and discussed. Irrigation is not merely a question of interest to the arid portions of this continent, but is a necessity wherever prolonged dry seasons occur, during which, but for lack of water, crops might be grown.

This is eminently true of much of Southern Rhodesia where such staple crops as wheat, oats, barley, rye, and at least one of the two crops of potatoes generally require irrigation. Moreover the conservation of water by weirs and dams, there are difficulties here not known further south. It is fitting therefore that a delegate should attend the conference to enquire and study on our behalf, and no doubt much good will accrue from his visit.

SOUTH AFRICAN NATIONAL UNION.

On his way to attend the Irrigation Conference it has been arranged that Mr. Edmonds will take part in the Congress of the South African National Union. As is well known the object of this Society under the active chairmanship of Sir Pieter Bam, M.L.A., is to promote the use of articles of South African origin both here and abroad and to foster new industries of all sorts. Towards this end a complete system has been devised for the distribution of information to consumers regarding local products, and to growers and manufacturers regarding markets and means of marketing.

Reliable technical advice procurable only, owing to the wide ramifications of the organisation, is freely obtained for members.

It is understood that matters of much importance are to be discussed at the Kimberley meeting.

THE FENCING ORDINANCE.

To the farmers of Bubi district belongs the credit of being the first to avail themselves of the provisions of this law. All formalities having now been complied with, an area of some 700 square miles owned by sixty separate properties is now brought under an Ordinance which enables any farmer desiring to fence his farm to obtain half the cost from his neighbours.

As the general question of fencing is receiving more public attention than ever, full particulars of the procedure to be adopted by those wishing to secure the benefits of the Fencing Ordinance are given elsewhere.

It is the opinion of those best qualified to judge that no single step that can be taken would be of greater effect in diminishing the risk and the ravages of disease amongst cattle, and of facilitating stock breeding in general than the universal use of fences.

AFRICAN COAST FEVER.

With African Coast Fever at Marandellas the last few weeks have been to old hands reminiscent of the earlier days—when rinderpest, Coast Fever, and rebellion, were alternate tragedies in the country. Decisive steps have,

however, been taken, and though some loss has been incurred to a few unfortunate owners of stock, most have only suffered in the stoppage of transport and some uneasiness of mind. A brief history of the outbreak by the Chief Veterinary Surgeon is published in this number.

LUNGSICKNESS.

Farmers will be glad to learn that in Bechuanaland lungsickness is now being vigorously and systematically tackled by the authorities. Since the beginning of the year active measures have been adopted. Extra inspectors have been appointed and affected stock is being slaughtered wherever found. Compensation is paid at the rate of one third of the assessed value, and the natives are co-operating readily, realising the advantages of the liberal treatment and of the benefits to be derived from the suppression of this fell disease.

CATTLE DIPPING TANKS.

The popularity of the method of tick destruction by dipping as a preventive of disease and a material aid in rearing horned stock continues steadily to grow in spite of the scepticism of the ignorant and occasional deaths by misadventure which are perhaps unavoidable until the proper procedure and care of animals before and after dipping is better understood. In Cape Colony this process is now general throughout the tick infested districts where only a few years ago strong objection was taken to its adoption.

The relative merits of rival preparations for the purpose, all based upon arsenic as the tick destroying principle, is still a vexed question, but the effectiveness of the method is undisputed although improvement is not impossible as pointed out in a paper by Mr. Edmonds, M.R.C.V.S.

CATTLE FROM ACROSS THE ZAMBESI.

As will be seen from Government Notice No. 47 of 1909, printed on another page, the necessity of preventing the entrance of cattle from the remote parts of North Western and North Eastern Rhodesia referred to above arose most unexpectedly.

As no grounds existed for believing that this new trouble, if indeed it be new, existed in the Shesheva and Barotse Valley, and to minimise as far as possible the hardship unavoidably occasioned, stock from these Southern areas has been permitted to come down to a quarantine area near Matetsi Station up till a date which will preclude animals from the supposed infected area from being introduced.

A complication arose on the 14th of April, through the report of several deaths amongst cattle intended to be sent South, necessitating a suspension of this movement until enquiries have been made. Before these lines are read no doubt the matter will have been elucidated.

BORING FOR WATER.

By arrangement, Mr. Oakley, a gentleman with a wide South African experience of the subject, is at present visiting farmers throughout Rhodesia to advise them on the subject of sinking bore holes on their farms. Applications for his services to the number of 110 have been received and so far as the limited time at his disposal will admit all will be visited in turn. In arranging for conveyance from farm to farm by the applicant and in details connected with the itinerary the Farmers' Association have proved an invaluable agency. It is noteworthy also how the demand for advice on this subject has varied in different parts of the country; no applications being received from some quarters whilst from one remote district the request came with comprehensive simplicity from "all the farmers"! As far as may be these invitations are being met and Mr. Oakley is likely to have a busy time and an extensive tour during his sojourn in Rhodesia.

A NEW FLY DISEASE.

The action of the Southern Rhodesian Government in excluding cattle from North of the Zambesi, until further investigations have been made, was rendered necessary owing to an announcement by Mr. Montgomery, of the School of Tropical Medicine, Liverpool, of the existence of a fly-borne disease different from the ordinary Tse-Tse Fly disease, and which he alleges can be communicated by blood-sucking flies, other than Tse-Tse.



Typical Milk Cows of the Ost-Friesland Breed.

In the interests of the cattle industry of Southern Rhodesia it was considered essential at once to stop all importation of cattle from the North.

At as early a date as possible enquiries will be set on foot to ascertain whether the statement referred to above is well founded or not. Coming from a recognised authority it is necessary to treat the report very seriously. It is by no means impossible, however, that in the course of a few months the introduction of cattle from North Western and North Eastern Rhodesia may be permitted.

The disease which is attributed to a blood parasite, *Trypanosoma dimorphon*, may already have been in existence for a longer or shorter time in Southern Rhodesia, since it is believed to have been found throughout Portuguese East Africa, in which case being already infected there is little if anything to be gained by exclusive measures. Again the question of conveyance by hosts other than Tse-Tse has yet to be scientifically confirmed. Nothing can be done until these problems have been solved by systematic investigation.

EAST FRIESLAND CATTLE.

A joint order has just been despatched to Europe on behalf of those very enterprising breeders Messrs. MacArthur and Maclaurin of Salisbury for 12 head (one bull and eleven heifers) to augment their herds of pure bred Friesland cattle. They desire to specialise in a milk producing line and are sparing no pains to secure the best possible stock. In turning to Oost Friesland they open up a new source so far as Rhodesia is concerned but one in which the great family of black and white Friesch, Dutch, or Holstein cattle has become highly specialised, particularly for milk production, avoiding, however, the great size, with its consequent need of high feeding, characteristic of certain other branches of the great breed. To facilitate acclimatisation, but at the cost of having to wait longer for any return, the importers have wisely decided to limit themselves to animals under nine months old. The arrival of the consignment will be looked forward to with interest. Illustrations of typical specimens of the breed are given.

COLLECTION OF AGRICULTURAL PRODUCTS.

Distinct from the botanical collection yet akin thereto a collection is being formed at the Department of Agriculture of samples of produce of all sorts, hay, forage, cereals of all sorts, beans, huckwheat, linseed, groundnuts and other crops, also specimens of fibre, wood, fruit, basket work, and so on, in fact anything saleable that is grown and made in Rhodesia. Besides these there are being brought together by degrees specimens illustrative of diseases of animals and crops, and foreign grains of possible interest to us. Duplicates and additional samples are required for sending abroad to try to give the public of South Africa, England, and Europe an accurate idea of the possibilities of Rhodesia.

Samples of interest will be gratefully accepted by the Director of Agriculture, Salisbury, and larger quantities will be willingly paid for if of sufficient interest to send away. A small commencement has as yet only been made, but in time it is hoped that this collection will become of real utility and interest to visitors, both farmers and strangers alike.

TURKISH TOBACCO AT THE CAPE.

Some interesting information to tobacco growers appears in the April number of the "Cape Agricultural Journal" in an article by Mr. L. M. Stella, Turkish Tobacco Expert.

The article deals with the results of a series of experiments with Turkish Tobacco carried out on several farms and Government Experiment Stations. During 1907-8 experiments were undertaken in nine different districts, and a successful crop of 13,000 lbs. was raised and sold at an average price of 1s. 11d. per lb., which was 5d. per lb. in excess of the previous year's crop.

Failures took place in two cases, those of Riversdale and Mossel Bay Districts. The cause of these failures was mildew, which developed owing to the heavy mists.

There is now under cultivation on fourteen private farms nearly 70 acres, which it was estimated would yield 35,000 lbs. of Tobacco, but severe drought and the presence of cutworms has had a deterrent effect, and the expectations are now not so good.

OPENINGS WANTED IN RHODESIA.

One of the signs of the growing outside interest in Rhodesia as an agricultural and pastoral country is the increasing stream of applications made to the Department of Agriculture by young men seeking openings on farms with a view of acquiring experience of the conditions of the country before taking up land for themselves. The applicants are of all classes, colonial and home-born, experienced and city-bred, with means and without, or with prospects. Some are in England, many at the Cape, and some are on the spot. Apart from those who desire to take up land at once there are many who wish to serve as pupils or foremen, or managers for absent owners, and others who seek openings of a non-agriculture sort.

The established farmer occasionally has need of such and may from lists kept at the Department of Agriculture be able to supply his needs. Correspondence is invited and while everything possible will be done to bring suitable employer and applicant together, of course no guarantee or recommendation can be furnished beyond testimonials as supplied to the Office.

This question of mud-students, farm pupils, apprentices or assistants is a difficult one to solve everywhere the world over, but especially here with so much that is different to elsewhere as regards labour, methods, crops, and seasons. Previous experience is not necessarily a recommendation; common sense, patience, and adaptability are the chief desiderata. Some think that new chums must gain their experience and pay as bitterly for it as those first in the field, forgetting apparently that every new man settled in this country is a gain to those already here and that to secure and extend our markets additional production is the chief need, while the bogey of competition is a vain fantasy engendered of an inadequate understanding of economic laws.

Cattle in Southern Rhodesia.

By ROBERT WALLACE, Professor of Agriculture and Rural Economy in the University of Edinburgh.

A CATTLE COUNTRY.

Southern Rhodesia is essentially a live stock country, and for the present by far its greatest possibilities lie in the Bovine branch of the industry. I formed a very high opinion of its possibilities for the breeding and raising of cattle for beef, for the dairy and for draught purposes, in spite of the fact that within comparatively recent years horned stock has suffered wholesale depletion from Rinderpest, and latterly from East Coast fever. The means by which any wide-spread outbreak of Bovine disease can be prevented are now so well understood that no fear need be entertained of any outbreak which could end in disastrous consequences to the country as a whole.

GRAZING.

As a grazing country for cattle during the period of rainfall and luxuriant growth Rhodesia has no equal in South Africa, and it would be difficult to find her superior in any part of the world.

NATIVE CATTLE.

Few Europeans have been contented to breed only native cattle and improve them by selection of the best, because of their alleged slowness of maturity. The result has been that pure-bred bulls from at least six or eight European breeds have been introduced from time to time and the progeny is mongrel in character and not at all satisfactory. The first cross between a pure-bred European bull of any of the breeds that have been tried is in most instances a useful animal. From its native mother it inherits sufficient hardiness to enable it to maintain condition in winter, and from its foreign sire greater weight and a measure of early maturity.

White breeders, not contented with the success of the first cross but striving to introduce more European blood than the conditions of the country could support, have by putting pure or high grade bulls to first crosses, produced animals that cannot hold their flesh in winter and are a discredit to their blue blooded ancestors, as well as a loss to their owners. I suggested to cattle breeders in Rhodesia that standard bulls should be produced by mating bulls of the various European breeds with Africander cows, so that a Rhodesian Africander-Shorthorn, a Rhodesian Africander-Devon, a Rhodesian Africander-Lincoln, a Rhodesian Africander-Polled Angus, a Rhodesian Africander-Holstein, a Rhodesian Africander-Ayrshire, or similar blend of almost any other breed could be produced by those wishing to breed any one of these types of cattle, or to grade up their native cattle toward a common half-bred standard. I selected the Africander as the best of the South African cattle for the purpose—the largest in size, of a deep red or black colour, capable of withstanding the climate, and with a reputation as a trek ox unequalled in South Africa. The leading breeders were so favourably impressed with the suggestion that at a meeting called by Colonel Raleigh Grey, it was agreed to form a Rhodesian Herd book and Breeders' Association, to preserve the purity of the Africander breed, and to produce standard bulls of a number of the varieties named.

HARDINESS OF NATIVE CATTLE.

The native cattle of Rhodesia are hardy and well able to withstand the adverse circumstances which periodically occur in a country where no systematic or widespread effort is made to provide for cattle during the trying winter and spring months when the grass on a considerable area is dry, hard, and unpalatable, and when, owing to unseasonable veld fires, little even of the withered herbage remains, and animals find it difficult to get food of any kind. By cutting off, in accordance with the law of the survival of the fittest, all weaklings, those annual trials of endurance have greatly contributed to the hardiness of the race, and have through a long period of years moulded them in a most perfect manner to the conditions of the country. Their lot has been made all the worse by the native system

of management, which not only shuts them up in kraals during the night, ostensibly for protection against lions and other predatory animals, but unnecessarily aggravates the evil by the practice of keeping them in the kraals till 11 o'clock in place of letting them go at daybreak to feed before the sun gets hot.

It is wonderful how pure native cattle remain in fairly good condition under those circumstances, even during the trying period before the rains come in October. But when they are allowed to run both day and night they gain the greatest benefit during the hours when, by the deposition of dew, the grass is softened and they can get down to the bottoms of the withered tufts and find green or succulent food, with the result that mature healthy cattle can lay on flesh at any period of the year and become, in stock breeders' language, "rolling fat."

Land that is fenced, so that cattle can run without kraaling, will carry double the stock and do them better than similar land unfenced; and when it is eaten down, pasture grows finer year by year, owing to sweet grasses taking the place of coarse ones.

Endurance in the yoke is intimately associated with hardiness of constitution and rustling power. These qualities are, however, incompatible with a high degree of early maturity. Instead of acquiring them, all breeds of European cattle and their high grade crosses get extremely emaciated at the most trying season of the year, the early maturity shorthorn being probably the one which as a pure bred animal shows greatest weakness in this respect. With the loss of power to retain flesh, the benefits to be derived from a tendency to early maturity naturally vanish. While native cows will each produce at least a calf every year, and some even six calves in five years, often only 80 per cent. of imported European animals yield calves, and these require much care in rearing. The advantage of greater weight in a European as compared with a native animal is more than lost by the reduction in numbers, and to this must also be added the greater death rate due to their periodic thin condition.

THE RESULT OF CROSSING.

A close study of the results of crossing clearly showed that the most useful animal to serve the country's wants is

a half-bred blend of European and native blood. The first cross from good animals on both sides combines the best qualities of both—the hardiness and endurance of the native dam, with a considerable measure of the early maturity and greater weight of the European sire. By breeding from first crosses carefully selected, especially on the male side, and continuing to do so without introducing more pure blood from either source, a breed of cattle that would breed true to type, admirably adapted to the conditions of the country under a *régime* of progress and improvement in the pasture, could be built up in a few years. This desired object would be reached all the more quickly if, on the appearance of some bull of special excellence, his progeny were once inbred, or, more correctly, line-bred, but not to closer affinities than cousins.

THE AFRICANDER.

The best native breed from which to draw females to produce what might be called the “standard” improved type of almost any of the European breeds is the Africander. This breed nicks particularly well in crossing with European cattle, probably because, as is believed, it was formed by mating North Devon bulls with cows descended from the aboriginal cattle found in the country four hundred years earlier, when it was occupied by the Portuguese, and crossed with cattle introduced by them from the Spanish peninsula. Owing to its great importance as a foundation breed in the formation of standard breeds from which to produce bulls to improve the mongrel cattle of the country, and to establish improved herds for general purposes, the Africander should also be preserved as a pure breed, and should occupy a prominent place in the herd book of Rhodesian cattle, which it is proposed to form. Admission should be given to animals of Africander type which are good enough to satisfy competent judges sent officially to inspect those proposed to be entered. As some very excellent specimens for both size and quality remain of the Matabele cows descended from Lobengula’s best stock, they should also be admitted for the purpose of breeding half-bred standard bulls. Although possessed of considerable merits as foundation stock for general breeding purposes on the farm, none of the other breeds of cattle are good enough for those purposes.

MASHONA CATTLE AND HOW TO BREED THEM.

The Mashona cattle, which are the most numerous of the native breeds, are excellent farm cattle, short-legged, thick-set, and good in the yoke, but they are mostly in the possession of natives who are not willing to sell any great number of them. The type of the modern Matabele breed is much like that of Mashonaland, but rather longer in the legs. Little can be done to improve the cattle of natives further than to induce them to castrate the inferior specimens before they grow large enough to get calves. Although native-bred cattle are usually very much inbred, they do not seem to suffer the evil consequences usually looked for in the train of the practice among British cattle. In time it might be possible to bring about exchanges of bulls among different kraals, but any immediate action in this direction might lead to the price being raised of the cattle the natives are prepared to sell, and increase the difficulty of settling the country. The proper course for a Rhodesian farmer to follow in breeding with cows of the Mashona breed or their kindred is to mate them first with a pure North Devon bull, so as to give the progeny a tendency to early maturity, and then in turn mate the cross with an Afrikander bull to increase the size and bring the herd into closer connection with the standard half-bred bull which would subsequently be always used.

THE ANGONI AND GERMAN EAST AFRICAN CATTLE AND THEIR CROSSES.

This course is equally applicable to breeding up a herd from the little Angoni cow or still smaller, humped, nearly-related animal from German East Africa. This breed, which belongs to the Zebu or Indian race of cattle, with black skins under many shades of colour of hair ranging from white to black, is probably the hardiest of all the cattle in Rhodesia. They have unsurpassed power of resisting the influence of a tropical sun, and for their size the bullocks are unequalled in the yoke. Casualties are rare among breeding cows, even when these are mated to shorthorns and bulls of other large breeds; but, although very excellent offspring do sometimes occur from such a cross, the characteristics of two such parents are too



Photo by]

Africander Heifers.

[Eric A. Nobbs.



Photo by]

East Coast Cattle.

[Eric A. Nobbs.

divergent to give uniformly good results. The progeny of the humped cow mated with the North Devon bull loses the hump in the first generation, and the danger arising from mating two animals of very different size is avoided. If mated with the Africander bull the humped cow transfers more or less of a hump to her calf. The place for the Africander bull, as in the case of the Mashona cross, is as sire of the second cross. Modified humps may appear now and then in a few cases for some generations, but not so as to do any material injury to the value of the animals; the ultimate result of the composite cross may be relied upon as satisfactory under the influence of standard half-bred bulls, especially of the Devon-Africander breed.

NORTH-WESTERN RHODESIA CATTLE.

The little Barotse breed, from the west of North-Western Rhodesia, should be crossed in a similar fashion to the humped and the Mashonaland cattle. The Africander bull would not only increase the strength of bone and size of the progeny by the first crosses, but it would eliminate the tendency to tender feet which is characteristic of Barotse cattle. One of the chief drawbacks to fine cattle of European origin is the softness and tenderness of the feet. On hard and stony ground they become lame and cannot travel freely.

Native cattle have broader and more durable teeth than imported stock, and they continue to live two years longer than half-bred cattle, and even thrive after losing their incisor teeth, when a British animal would starve to death.

BEST COLOURS OF CATTLE IN HOT COUNTRIES.

The best colour for Rhodesian cattle is black or dark red, and the vast majority of native cattle belong to one or other of these colours. A good many are broken in colour, but few combine the unquestionable weakness of having white or pale skin under the white or light coloured hair. Such a combination, common among European cattle, is a weakness when the animal is exposed to a tropical sun, which blisters the skin and impairs the health. Dark red is now the favoured colour among Africanders, but at one time there were as many cattle of the breed

black as there were red, and the finest of Lobengula's herds were black. This was the royal breed, and it supplied the carcasses which were consumed on the occasion of feasts. The red of the North Devon and of the Lincoln Red Shorthorn is a characteristic strongly in their favour in mating with the Africander, while the white faces, legs, and hoofs of the Hereford militate against him.

The Friesland-Africander standard bull will compete with the Lincoln-Africander as a general purpose animal, especially if the uniform black is striven for. To this group the black Welsh-Africander also belongs. The Ayrshire-Afrikaner, if bred from dark coloured Ayrshire bulls with a good milking pedigree, would probably be the most suitable milking breed for a country dairy. The bullocks would grow into excellent work oxen of good size, though as beef-producing cattle they would be slow to mature while young. Beef types can be got separately by use of Shorthorn, Polled-Angus, Devon, Hereford, or Sussex bulls, but bulls of practically any of the British breeds—as well as of the Swiss Zimenthaler famous for milk, and the white Roman Rampas breed noted for work—would cross well with Africander cows. Although it was at first proposed to restrict the Herd book of the Rhodesian Cattle Breeders' Association to entries of (1) Pure Africanders, (2) North Devon Africanders, (3) Polled Angus Africanders, and (4) Lincoln Red-Shorthorn Africanders, there appears on further consideration no reason why good half-bred animals, the progeny of animals bred true to type on both sides, should not be entered, each breed in its own separate section.

OVERSEA CATTLE.

Cattle from overseas are liable to contract red-water fever on being introduced into Rhodesia, which is a red-water fever country in the same sense that Texas is a red-water fever country. Animals born in the country and inoculated at an early stage of their existence contract the disease in a mild form and are mostly immune from the most serious consequences of it, especially if systematically dipped, so that too many ticks are not permitted to live on them. There is a danger in a red-water country of killing all the ticks on a farm by dipping, as cattle from a farm where this has occurred are liable to contract the dangerous form of red-water when removed to a part of

the country where the disease-bearing ticks are present. To reduce the risk and the percentage of death among cattle brought from Europe or America, they should be taken in when under a year old and regularly dipped every fourteen days to keep down the number of ticks, and consequently moderate the fever which all may be expected to take.

MARKETS FOR THE BEEF TO BE PRODUCED.

For a number of years all butchers' cattle for sale would find a satisfactory market in South Africa, especially if butchers' cattle are not encouraged to come in from the North, and by the time the supply began to overbalance the local demand there would be a sufficient number of new settlers in the country to combine to form a co-operative refrigerating association to ship the surplus meat to the London market. The pick of the North Devon crosses with the native cattle would be good enough for the purpose, though a little on the light side. In the course of time the progeny of the standard bulls would admirably meet the requirements of the British market for carcasses of light weight.

The Time and how to find it.

By the Revd. Father E. GOETZ, S. J., the Observatory,
Bulawayo.

There are several simple contrivances for keeping a sufficiently accurate time at a place where a reliable time-piece is not available.

The first is by what is called a "Gnomon." A Gnomon in its simplest form, consists of a thin straight rod planted plumb on a level surface. The shadow thrown by the rod will fall exactly at the same place every day when the sun crosses the Meridian of the place, *i.e.*, the north-south line. It is then true noon. If therefore we have by some means determined the position of the shadow at true noon, we have a means of determining the time every day on which the sun is shining.

The position of the shadow which corresponds to true noon may be determined in two ways. Describe a circle on the horizontal surface from the foot of the rod as centre. Watch the moment before noon when the shadow of the rod leaves the circle, and mark the point on the circle. Let us call the point A. At the same distance from true noon after midday the shadow will reach the circle again. Mark this point, which we may call B, now join A B by a straight line, find the middle point M of A B and join M to the centre of the circle, *i.e.*, the foot of the rod. This line is the Meridian line. When the shadow lies over it, it is true noon at that place. This operation will be more accurate if done about the 22nd June or the 23rd December.

To get a reasonable degree of accuracy the rod should not be too short, for then a small error in the position of A and B will considerably throw out the meridian line. If the rod be too long it will often be difficult to estimate exactly the point where the shadow touches the circle, owing to the indistinctness of the shadow. The rod ought to be as thin as possible, but this is not consistent with the rigidity required. It is therefore advisable, if the rod be of appreciable thickness, to take as points A and B, the points where the middle of the shadow leaves or reaches the circle and join the point M to the middle of the foot of the rod, or if it be easier, to take the outer edge of the

shadow both before and after noon, but the middle point M must in this case also be joined to the middle point of the foot of the rod. True noon shall be in both cases at the moment when the meridian line bisects the shadow of the rod.

To get the Standard South African Time from this observation two corrections have to be applied, one depending on the longitude of the place, and the other on the time of the year.

The correction for longitude comes from the fact that by a convention made a few years ago the official time in South Africa is the time of the 30th Meridian East. That means that all through South Africa clocks are regulated to mark noon exactly two hours ahead of Greenwich.

Accordingly at places east of the 30th degree of longitude, when the shadow reaches the meridian line the clocks do not yet mark 12 o'clock, and consequently the sun is ahead of the clocks, that is, a certain amount is to be subtracted from the time marked by the rod. This amount is 4 minutes for every degree of longitude and 4 seconds for every minute of longitude.

The reverse takes place for localities west of the 30th meridian, where 4 minutes and 4 seconds have to be added for every degree and minute of longitude respectively. For instance:—The longitude of Salisbury is 31 degrees 2 minutes, that is 1 degree 2 minutes east of the 30th meridian. When the sun passes over Salisbury, *i.e.*, when the shadow line coincides with the meridian line at that place, we know that it will take the sun 4 minutes and 8 seconds to reach the 30th meridian and therefore that the clocks regulated to Standard time ought to mark 11 hours 55 minutes and 52 seconds. The longitude of Bulawayo is 28 degrees 35 min., that is 5 degrees 25 min. west of the 30th meridian, consequently when the sun reaches Bulawayo it is already 4 min. and 25 times 4 sec., or 5 min. and 40 sec., since the sun passed the 30th meridian and the clocks set to standard time ought to mark 12 hrs. 5 min. 40 sec. This correction is therefore a fixed quantity to be added or subtracted, and can easily be determined once for all at least within a minute, for the longitude of most places in Rhodesia can be ascertained within a quarter of a degree, which corresponds to a correction of one minute in time.

The second correction called the "Equation of Time," comes from the fact that the time is not got directly from the motion of the sun which is not uniform, but from the uniform motion of a fictitious sun called the "Mean Sun." The corrections to be applied are given in the following table. They are at some periods to be added to, at some others to be subtracted from, the time as given by the shadow of the rod. Four times a year on April the 15th, June the 15th, September the 1st, and December the 24th, no correction is to be applied, a fact noted here since as we will see later. This may help us to determine the meridian line without much trouble.

TABLE I.

Equation of Time.

(1) Minutes to be added to the time marked by the Sun's shadow. (From Dec. 25th to April 16th and June 15th to September 1st.)

December.		March.	
Date.	m.		
25	0	4	12
27	1	8	11
29	2	12	10
31	3	16	9
		19	8
		22	7
		26	6
		29	5
January.		April.	
2	4	Date.	m.
4	5	1	4
6	6	5	3
9	7	8	2
12	8	12	1
14	9	15	0
17	10	16	0
20	11		
24	12		
28	13		
February.		June.	
4	14	14	0
11	14 $\frac{1}{2}$	15	0
20	14	19	1
27	13		

June.		August.	
24	2	3	6
29	3	12	5
		17	4
		22	3
4	4	25	2
10	5	29	1
19	6		
26	$6\frac{1}{2}$	September.	
27	$6\frac{1}{3}$	I	0

(2) Minutes to be subtracted from the time marked by the Sun's shadow. From April 16th to June 15th, and September 1st to December 25th.)

April.		October.	
Date.	m.	Date.	m.
16	0	4	11
20	1	7	12
25	2	11	13
		15	14
		20	15
		27	16
May.		November.	
2	3	3	$16\frac{1}{3}$
15	$3\frac{5}{6}$	10	16
28	3	17	15
		21	14
		25	13
		28	12
		31	11
June.		December.	
4	1	4	10
14	0	6	9
		8	8
September.		10	$7\frac{1}{4}$
1	0	13	6
4	1	15	5
7	2	17	4
10	3	19	3
13	4	21	2
16	5	23	1
19	6	24	$\frac{1}{2}$
22	7	25	0
25	8		
27	9		
30	10		

Some examples will show sufficiently how the corrections have to be applied. What is the Standard time at Salisbury at true noon (that is when the meridian line bisects the shadow of the rod) on Dec. 5th and March 27th? The longitude of Salisbury is 31 degrees 2 minutes. As we have seen before the first correction for longitude shows that on account of the longitude the true time in Salisbury is 4 m. 8 sec. ahead of Standard time. On 5th Dec. the table of the "Equation of Time" gives between 10 and 9 minutes, let us say 9 m. 30 sec., to be subtracted from the time marked by the shadow, the total correction is therefore 13 m. 38 sec. to be subtracted from 12 o'clock, and the clocks ought to mark 11 hr. 46 m. 22 sec. to be correct. On March the 27th the Equation of Time is about 5 m. 40 sec. which have to be added. One correction, in this case 4 m. 8 sec., has to be subtracted, the other 5 m. 40 sec. has to be added. Take the difference of the two, 1 m. 32 sec., and add this to, or subtract it from 12 o'clock according as the larger of the two corrections has to be added to or subtracted from the true time.

Some may prefer the following way:—Make the correction for longitude once for all for the place where the rod is erected and to that add, or from it subtract, the Equation of Time, according to Table I. Thus for Bulawayo and Salisbury respectively we may say that at true noon, a well regulated clock ought to mark 12 hrs. 5 min. 40 sec. and 11 hrs. 55 min. 52 sec. respectively, more or less the Equation of Time. Hence in the above case, when the shadow is on the meridian line, a clock at Bulawayo ought to mark 12 hrs. 5 min. 40 sec. less 9 min. 30 sec. and 11 hrs. 55 min. 52 sec. less 9 min. 30 sec. at Salisbury on the 5th of December, and on the 27th of March 12 hrs. 5 min. 40 sec. plus 5 min. 40 sec. at Bulawayo, and 11 hrs. 55 min. 52 sec. plus 5 min. 40 sec. at Salisbury.

These considerations lead us to the second method of determining the meridian line, and this will generally be found both easier and more accurate than the first. It sounds simple enough to erect a rod in a vertical position, but in practice it may not be found to be such an easy thing to do accurately, and other methods may be welcome. From what has been said it is evident that the shadow

from any object that is truly vertical can be used to determine the correct time if we can find on a single occasion the true position of the shadow when the sun crosses the meridian which passes through the object. Thus the vertical edge of a window may be used with advantage if the midday sun reaches it, or the corner of a house, or a string hanging from a post and well stretched by a weight (the string must of course be hanging freely, not touching anything, nor must the weight touch the ground). Let us take for instance the vertical edge of a window. If we have a watch which is known to mark on some occasions accurate time or whose error is known, we may calculate beforehand the time which the watch ought to mark at the moment when the shadow thrown by the edge of the window on the windowsill, or even on the floor or wall inside the room, will be on the meridian, that passes through the edge of the window. An example will show clearly how to proceed. Let us suppose that on the 10th of July a person at Salisbury having a watch known to be 4 minutes late on the Post Office clock wishes to mark the meridian line on a window-sill facing north. We may reason thus: at true noon at Salisbury a watch ought to mark 11 hrs. 55 min. 52 sec. more or less the Equation of Time, in this case 5 min., which have to be added to the time marked by the sun's shadow. Hence the watch ought to mark if well regulated 12 hrs. 0 min. 52 sec., but the watch is 4 minutes slow, hence the sun would have passed the meridian 4 minutes before, and it was when the watch was marking 11 hrs. 56 min. 52 sec., that the position of the shadow of the window's edge on the sill or on the floor ought to have been noted.

The line thus determined is the meridian passing through the edge of the window, and every day at true noon the shadow will lie over that line. Hence on any day henceforth by noting the time a watch marks at that moment and by applying the two corrections we may get the error of the watch. If in the above example we leave out the correction for longitude and apply only the Equation of Time, we shall not of course get the true meridian, but we shall not need to apply this correction in future. Thus if, taking the same example, we apply only the Equation of Time which is of 5 minutes to be added and (supposing the watch to be correct we mark the place of the shadow at 12 hrs. 5 min. and draw a line along the

shadow, we shall have a line which is out of the meridian by exactly the amount represented by the correction of longitude and henceforth the only correction to be applied when the shadow reaches the line is the Equation of Time. This correction cannot be disposed of in a similar way since it changes from day to day. This operation can be performed without the trouble of any special computation four times in the course of a year, on April and June the 15th, September the 1st, and December the 24th, as on those days the Equation of Time is nil, or practically so.

As the sun is south of us for a part of the year in the greater part of Rhodesia a similar operation would have to be performed at a window on the southern side which receives the sun at midday at that time of the year, roughly speaking from the middle of November to the end of January.

SUNDIALS.

As for a part of the year we are liable to get for days and even weeks cloudy weather at midday, some people may want a means of ascertaining the correct time at any moment of the day when the sun happens to be shining. This can be done by a sundial. In its simplest form a sundial consists of a horizontal surface into which is planted a rod called "stile" that points to the pole. The shadow thrown by this rod on the level surface will come back to the same place every day at the same hour.

To get the stile to point to the pole two conditions are required and they are sufficient. The stile must make with the level plate an angle equal to the latitude of the place and it must be in the meridian. The latitude can always be known with sufficient accuracy as it will be enough to know it within half a degree. The meridian line on the horizontal plane can be determined as stated before by a gnomon. It will not be found easy as a rule, to insert into the level plate a stile making with it an angle equal to the latitude of the place and situated at the same time in the meridian. But the rod can with advantage be replaced by a plate of metal cut in the shape of a triangle, one angle of which is equal to the latitude of the place. The metal plate is best only just thick enough to be rigid. A triangle cut out of a piece of plank will do also but in that case the thickness of the plank will have to be taken into account. This induces no complication as will be

explained later. If this triangle be placed on the level plate so that one of the sides comprising the angle equal to the latitude be placed on the meridian line with this angle opening to the south the other side will point to the South Pole and will act as the stile required.

Care must be taken that this edge pointing to the pole be cut perfectly straight or the shadow thrown by it will not be a straight line, a fact which may be a cause of considerable error especially in the early forenoon or in the late afternoon. The triangle must be set quite plumb on the level plane over the meridian line, or else the upper edge will not truly point to the pole, as it would then be out of the meridian.

A triangle containing an angle equal to a given latitude 17 degrees and 21 degrees 30 min. may be constructed by the use of Table 2 given below, in the following way, with a fair degree of accuracy if proper care be taken.

Draw a line A B of 12 inches in length. At one end, say B, draw a line making with A B a right-angle; on this line cut off a portion B C equal to the number given below, the required latitude in the table. Join C A, the angle A will be the required angle.

The numbers given in the table are inches and 32nds of an inch.

TABLE 2.

Latitude	21° 30'	21°	20° 30'	20°	19° 30'	19
Inches and 32nds. ...	4 - 23	4 - 19	4 - 15	4 - 12	4 - 8	4 - 4
Latitude	18° 30'	18°	17° 30'	17°		
Inches and 32nds. ...	4 - 0	3 - 29	3 - 25	3 - 21		

It is not necessary to make the stile quite so large; the length of 12 inches has been chosen for this table in view of a construction which is to be explained later. We may use 6 inches but then the numbers in the table have also to be halved. Thus if the line A B be 6 inches, the line B C, in case we want to form the angle of 20 degrees would be of 2 and 6-32 inches.

The stile being once in its position in the meridian by this construction we may proceed to mark the hour lines. This may again be done in two ways, either by the use of a timepiece which keeps fairly accurate time, or by measurement.

If this is to be done by means of a clock proceed as follows. Through the point where the stile enters the horizontal plane draw a line at right angles to the meridian line on either side of it; the western part of it is the six hour line of the forenoon, the eastern part the six hour line of the afternoon.

Next calculate as explained in the case of the Gnomon the sum of the corrections that have to be applied to the true time on that day, and this gives you the difference between the time the clock (supposed to be accurate) ought to mark and the different hours marked by the shadow of the stile on the horizontal plane. Thus if we refer to the examples given above we see that if in Salisbury we wish to mark the hour lines on a dial (supposed to be already in proper position with regard to the meridian) on the 5th of December we have only to watch the shadow when the watch marks 6 hrs. 46 min. 22 sec. The shadow line is then on the 7 hour line of the dial. This line being determined, we determine in a similar way the hour line of eight, nine, ten and eleven. The afternoon lines of one, two, etc., are symmetrical with the 11 and 10 hour line of the forenoon, about the meridian line. At true noon, in the present case when the watch marks 11 hrs. 46 min. 22 sec., the shadow ought to be on the meridian. If this method be resorted to on April or June 15th, September 1st, or December 24th, the correction of longitude only will have to be taken into account as the Equation of Time is zero on those days. The half hours and the quarters may be marked off in the same way. Remark that the shadow starts always from the point where the stile reaches the horizontal plane and that therefore all the hour lines ought to be drawn through this point. It is not advisable to mark the half hours and the quarters by a full line. A short line directed of course towards the common meeting point of the hour lines will be sufficient. We might in this case also draw the hours lines in a way which would enable us to dispense with the correction for longitude in future. For that, it would be sufficient to omit the correction for longitude when computing the time the watch ought to mark and take this as the time when the shadow would coincide with the hour line.

In the example given above, the corrections for Salisbury are 4 min. 8 sec. to be subtracted from the hour for longitude and 9 min. 30 sec. for the Equation of Time,

making in all 13 min. 38 sec. If we subtract 9 min. 30 sec. only and mark the line of the shadow at 6 hrs. 50 min. 30 sec., we shall have the correction for longitude incorporated on the dial once for all. If, however, the Convention about Standard Time were to be changed the dial would no longer be correct; it is best therefore not to do this but to mark the hour line at 13 min. 38 sec. before the hour, wait 4 min. 8 sec. and make a short mark at that point to indicate that the hour line according to Standard Time ought to pass there and read the hours when the shadow reaches that point.

If this construction be adopted the new noon line will not be exactly on the meridian line but differ from it by the correction for longitude, and the afternoon line will be symmetrical, not about the meridian line but about the noon line thus determined.

The hour lines may also be directly determined without the use of a watch by the following construction.

Measure exactly 12 inches on the meridian line towards the south, from the point where the stile enters the horizontal plane. At the point thus determined draw a line across the meridian line, at right angles to it; on this line mark off distances from the meridian line as found in the following table. The first number being inches, the second 32nds of an inch.

TABLE 3.

Distance of the hour line from the meridian line in inches and 32nds of an inch.

At Latitude	...	..	11 & 1	10 & 2	9 & 3	8 & 4	7 & 5
21° 30'	...	...	1—6	2—17	4—13	7—20	16—13
21°	...	...	1—5	2—15	4—10	7—14	16—1
20° 30'	...	...	1—4	2—14	4—7	7—9	15—22
20°	...	...	1—3	2—12	4—3	7—3	15—10
19° 30'	...	...	1—2	2—10	4—0	6—30	14—30
19°	...	...	1—1½	2—8	3—29	6—24	14—18
18° 30'	...	...	1—1	2—6	3—26	6—18	14—6
18°	...	...	1—0	2—4	3—23	6—13	13—26
17° 30'	...	...	0—31	2—2½	3—19	6—8	13—15
17°	...	...	0—30	2—1	3—16	6—2	13—3

The hour line of 6 (a.m. and p.m.) is a perpendicular to the meridian line through the point where the stile enters the horizontal plane. If the hours of 7 a.m. and

5 p.m. be produced through that same point we get the hour lines of 5 a.m. and 7 p.m. respectively; these will, however, never be of use in Rhodesia.

It may be found inconvenient to have to measure 16 or 15 ins. on either side of the meridian line. This can be obviated by drawing for instance a perpendicular to the meridian line at say 3 ins. from the point where the stile enters the horizontal plane, and reducing the figures in the columns of "7 and 5" hours in proportion, in this case taking the fourth, and measuring off these distances on the new line.

But for the hours of 11 and 10 this ought not to be done if fair accuracy is required, for in the case of the 11 hour line we see that an error of one 32nd induces an error of nearly two minutes in time, whilst on the line of the 7 hour an error of $\frac{1}{8}$ does not make more than an error of about a minute in time, if measured off on the line which passes one foot from the end of the stile.

A sundial may of course be constructed at leisure indoors according to this method, and when finished put in position outside on a level place, on which a meridian line has been determined. If the dial be so placed that the stile is on the meridian line, the sundial will work accurately.

The sundial itself may give the meridian line with the aid of a reliable watch as explained before. All that is wanted is to calculate the time the watch ought to mark when the sun is on the meridian. Be on the look out at the moment and place the dial so that the shadow of the stile falls exactly on the hour line of 12. The dial will be in proper position, for the stile will be in the meridian.

If the dial has an appreciable thickness, for example if made out of a piece of wood, the middle of the plank must fall on the meridian line, and in that case the thickness has to be taken into account when marking off the hour lines. If for example, the stile be made of an inch board, the shadow at midday will cover $\frac{1}{2}$ inch on either side of the meridian line, and the hour lines will have to be marked off according to the distances in Table 3, not from the meridian line but from half an inch distance on either side, and the points thus obtained joined to the point where the corresponding edge of the stile reaches the horizontal plane, half an inch also from the meridian line.

The following easy way of constructing a dial may be of use. Take a piece of well seasoned plank (a small drawing board or even a pastry board would do) draw a line in the middle parallel to the sides, to represent the meridian line. Near one extremity of this line bore a small hole through which pass a thread (a length of thin wire would do better) and fix it firmly. At 12 inches from this hole erect an upright at right angles to the board and through it at a distance from the meridian line taken from Table 2, according to the latitude of the place, bore a hole, through which pass the thread, and by some means or other, such as a small weight, keep it well stretched. This hole must be right over the meridian line. The thread will make a perfect stile and if the hour lines be marked on the board by one of the methods given above, it will be found that it answers very well. The upright can be put at six inches instead of twelve and the numbers taken from Tables 2 or 3 halved, if a smaller board only be available. As a sundial of this description would not last long if permanently left outside, one has only to mark exactly its position when accurately set up on a pier or wall, and put it in the same place whenever one wants to get the proper time.

African Coast Fever: Marandella.

By J. M. SINCLAIR, C.V.S.

14th May, 1909.

During the month of April a totally unexpected outbreak of African Coast Fever occurred on the farm "Springvale" Marandella District.

For some time previously cases of sickness had occurred and had been investigated, but nothing of a specific nature was suspected until the 14th inst. (April) when Mr. Speer, G.V.S., visited the place. His post mortem, and the microscopic examination of blood-smears by Mr. Jarvis, G.V.S., Umtali, left no doubt that the disease was Coast Fever.

Since then the course of the disease has been very virulent, and at the date of writing over a hundred animals have succumbed. The only other centre so far found to be infected is Marandella station, and there the infection is traceable to animals removed from Springvale, prior to the discovery of the nature of the disease.

Various lots of cattle have been under observation in Marandella and adjoining districts, particularly those which had been to Marandella station and had left that part of the district immediately before the outbreak, and now after three weeks no appearance of the disease has been manifested. As the average period of incubation is about 11 to 12 days there is now every reason to believe that all these animals are no longer a source of danger.

The source of infection is still unknown. The following history of the cattle on Springvale will show how difficult the problem is:—

The only strange animal introduced to the farm was a Friesland bull imported from the Cape Colony. This animal arrived in the month of October, 1908, and died in January of the present year from ordinary red-water. The first animals, after the bull, to die were the calves, and the cause of death was attributed to red-water. After the calves some of the older animals which had not been off the farm for years became affected. Some of the trek oxen then contracted the disease. These had

been, at frequent intervals, to Marandella station, but had not been outspanned from the time of their leaving the farm until their return.

The fact that the oxen did not show any signs of illness until comparatively late in the day shows that they did not bring infection to the farm, and the fact that the disease has not, after a lapse of three weeks, appeared in any farms in the district from which cattle have been to Marandella supports this view. How then was infection conveyed to the farm? Time may bring a solution of this difficulty, but at present there is no clue.

Shortly after the discovery of the disease at Springvale two calves and a cow died at Marandella station. Post mortem and microscopic examination of blood smears showed in each case, Coast Fever. So far these are the only two centres on which Coast Fever has been diagnosed. On the farm Gatzi there are six colonial bred Friesland heifers and one bull. These animals have been regarded with suspicion and have been under daily observation for over three weeks. They are the balance of a lot imported some months ago, and which on arrival in Salisbury had to be detained for upwards of two months before temperatures were sufficiently normal for the application of the Tuberculin Test. Several, however, died in Salisbury and the cause of death was assigned to redwater. At present the heifers in the farm are in poor condition and very anaemic looking. Their temperature records during the past three weeks show repeated exacerbations of fever. On one of the adjoining farms Mr. Stirling, Government Veterinary Surgeon, found two calves shewing very high temperatures, he immediately started a temperature camp, and within a fortnight twenty six calves and two large animals were removed from the herd as shewing marked fever. On the 4th of May, that is ten days after the first cases were detected, all temperatures except one were normal, and the animals were with one or two exceptions looking anything but ill. Similar cases have occurred in other two herds in the district. Microscopic examination of blood smears has failed to detect any evidence of coast fever except in the case of one of the Gatzi heifers.

What the actual cause of these passing febrile reactions is it is impossible to say without an exhaustive series of experiments and observations, but I am of opinion that the

calves are really "salting" to redwater, complicated with the disease caused by *Piroplasma Mutans*.

Tick infection has been very heavy during the past season in this locality, and it is probable that such is accountable for the more than usually pronounced symptoms in calves.

In the case of large cattle which are ordinarily immune, it is well known that heavy tick infestation will break down the immunity and cause an attack of redwater. The number of cases of redwater observed in all classes of cattle during the past season was greater than for many years previously.

A Simple Mosquito Trap.

Mr. Lefroy, of the Indian Entomological Department, has devised a simple and cheap Mosquito trap, which is said to have been found highly effective. A small box, 12 by 9 inches, fitted with a hinged lid, is provided with a small opening over which moves a sliding cover. The box is lined with dark green baize and has a tin floor. The trap is placed in a shady corner of the room, and the mosquitoes on entering the house in the morning seclude themselves in the box to escape the sunlight. When duly settled the lid is shut and about a teaspoonful of benzine injected into the box. We learn that in the course of a month, no less than 2,300 mosquitoes succumbed to the benzine.—"Indian Planters Gazette."

NOTE.—This should be a most valuable trap to use in houses, also in stables here if the Rhodesian Mosquitoes take as kindly to it as their Indian brothers!—[Actg. Ed.]

Sparrow Poisoning.

Take 1 teaspoonful of strychnine crystals and 2 pints of wheat. Put them into a vessel with a quart of water and boil until the grain has absorbed the whole of the liquid.

Remove, and when quite dry, strew the grain on feeding grounds frequented by the birds. The best places are those from which grain crops have recently been harvested, or on which it has recently been sown, as the birds are less suspicious when such places are selected. (G. M. McKeown, in the "Agricultural Gazette" of New South Wales.)

Flax-Linum Usitatissimum.

By C. E. F. ALLEN, Department of Agriculture.

Three thousand years ago the Phœnicians are said to have devoted much attention to the cultivation of this plant. Egyptian mummies were wrapped in linen which in many cases has been found in excellent state of preservation, after the many centuries it has encased the remains of some ancient noble of those bygone days. It is in fact one of the oldest fibres used for clothing purposes.

These notes deal with the plant as a seed producer, as being of more immediate value to this country than the plant grown for fibre, a subject which it may be desirable to take up at some later date.

The seed is imported from Europe and landed at the Cape at from 20s. to 30s. per cwt. according to the season. The weight per bushel of good linseed varies from 52 to 55 lbs. Good flax-seed should give a purity test of 98 per cent. and a germination test of 85 per cent. Riga flax grown one year in Holland is usually regarded as the best seed procurable.

The soil for the crop should be a fresh, deep, well-tilled, and not too heavy loam,—but any soil that will produce an average crop of grain will be suitable. It has been found in flax growing countries that a succession of crops is impossible with this plant. The results are a poor yield, and often disease flax-wilt is brought on by these methods, in which case no crop at all is obtained. Flax is generally recommended as a crop that does best on newly broken land. The best crops are obtained by fallowing the land, by early ploughing; then at the sowing season giving a deep cross ploughing and harrowing, and finally rolling. This being so the value of the crop is somewhat enhanced under our conditions,—some of the newly broken lands might be sown with it the first year, and so instead of a poor crop of mealies, a good crop of Linseed would result.

The quantity to sow per acre is about 25 lbs. The seed is usually drilled in rows about 8 inches apart, but if the land is very free from weeds it may be sown broadcast. Generally the former method is preferable, as in this case weeding is rendered easy.

The time for sowing appears to be the same as for mealies, and all depends on the season. The crop takes from 90. to 100 days to mature. Careful and regular observation is required towards the ripening time of the seed. If the flax gets too ripe it shells badly, and this may be the cause of serious loss. To determine the exact season at which to harvest the seed crop, the surest method is to cut one of the seed capsules transversely, and if the seed is set and out of the soft milky stage the crop is fit for harvest. Cutting with a reaper and binder is the easiest method of harvesting. Flax grown for both seed and fibre cannot be expected to yield more than a mediocre crop. The yield per acre of seed in America is from 12 to 14 bushels. The crop may be stacked or stored in sheds in the same manner as wheat or oats are stored and threshed out at leisure.

The chief use is the oil extracted,—linseed oil, the demand for which greatly exceeds the supply. The next benefit derived is the oil cake, the residue after the oil is extracted. This is a most valuable cattle food.

A half-acre patch at the Experimental Nursery at Salisbury on red loam, has grown well, and been free from any kind of pest. The seed has not yet been reaped, and when it is, the yield per acre will be reported on in this "Journal." It was sown at the rate of 16 lbs. to the acre, and is somewhat thin.

Taking the yield of seed per acre at 12 bushels, each bushel weighing 50 lbs., and supposing the seed is sold at 4d. per pound, the return per acre is £10.

The department will be very grateful to farmers who have grown linseed this year, for any particulars they can send regarding the amount of success they have met with, the yield of seed per acre, etc., for publication in the next issue of this "Journal."

Until sufficiently large quantities are grown to justify the erection of an oil extracting press there must necessarily be a limited demand for the seed. Yet for those who have so far advanced in butter making, that they feed their calves on separated milk, linseed is a prime necessity, while as a fattening diet for any animals, given in moderation, it is of great value.

At present the small quantities available ought to find a ready market for seed purposes, while the day may not be far off when we have our oil and cake mills and our flax industry as well.



Photo by]

Flax-Linum Usitatissimum, grown at Experimental Nursery, Salisbury.

[*C. E. F. Allen.*

The Winter Feeding of Stock.

By A. J. MACLAURIN, Salisbury.

The question of winter feed for cattle in this country is one that will receive much attention each year. As the breeder is now using a better class of bull to his native stock, he will learn that the finer the breeding the more attention to feeding is necessary. Although in Rhodesia we have a long dry winter, we are well off, in that it is a comparatively easy matter to grow almost all necessary foods. We can divide the feed under the headings of Pasturage, Grain Crops, Root and Pumpkins, etc. In grain crops we have a most valuable asset in the mealie. There is a small grinding machine on the market costing about £8, worked by horse power which will grind the corn and cob at one operation. The addition of the cob to the corn makes a more wholesome food. The corn by itself is too concentrated and difficult to digest. From the mealie we also get one of the best of foods in the shape of the mealie silage, which is so easy to cure. All that is necessary is to dig a hole in the ground, not more than 15 feet in diameter, and with the greatest depth possible. When the mealie has reached the glazed stage cut the stalk and cob into as many pieces as possible, and be careful not to fill in more than five feet in a single day. Keep the edges well tramped down and on reaching the top of the pit wait till the heat has come up through the centre. On finding it about as hot as your hand can bear, cover with about 18 inches of soil and leave, for about two months. On opening the pit the wisdom of having waited until the mealies reached the glazed state will be apparent in the sweet condition of the ensilage. In flax we have a crop which for many years was considered unsuitable for this country, but in the last two or three years it has proved to be a regular cropper. It has the great advantage of being free from rust, and as is well known linseed is one of the finest of concentrated foods. Linseed when boiled to a jelly, and added to the calves ration of separated milk, is about the best known and most suitable substitute for the original butter-fat. The linseed jelly should be added in the ratio of one tablespoonful to two bottles of milk. On many farms where forage cannot be grown Manna hay

is becoming better appreciated. To obtain the best results it is advisable to cut the Manna before the seed has fully developed, when it will give a sweet and nutritious fodder.

On Mr. Browning's plot to the north of Salisbury there is growing a wonderful crop of the small variety of sugar cane. The variety does not seem to be affected by frost, and without a doubt the yield per acre of green fodder is greater than that of any crop yet tried in Rhodesia. Sugar cane is easily propagated by joint cuttings. The only preliminary matter to arrange is a plentiful supply of manure to ensure successful cultivation. Many farmers after having seen this excellent crop of Mr. Browning's have resolved to follow his example by planting this cane. Mr. Browning has demonstrated its useful qualities not only for cattle but also for horses and pigs.

A few words on veld hay may be of use to the new settler. Grass unless cut when young and succulent will yield hay of only poor quality. On this account cutting operations should be commenced as soon as the rains have ceased. Care should be taken that the hay does not become bleached by lying too long in the sun before raking into cocks. If hay is to be baled the best method is to proceed, as in building a permanent stack, salting each layer at the rate of one bag to each ten tons. The hay should not be baled until such a time as the salt has thoroughly permeated the whole stack.

With regard to pasturage it is found that the wild veld grass, which during the wet months of the year is plentiful and hard to beat, is by itself in winter incapable of supporting in good condition well bred stock. The introduction of the great Australian dairy grass, *Paspalum dilatatum* enables the farmer, at a small outlay, to provide himself with permanent pasturage which continues to grow well into the dry season and remains green throughout the year. This grass takes kindly to Rhodesian soil, is easy of propagation, and establishes itself readily. The individual plants extend on all sides and crowd out all other vegetation. The usual methods of propagation are by sowing broadcast, or sowing in seedbeds and transplanting. The latter is in the long run the more satisfactory. The seed bed if sown in midsummer will produce in nine months time young plants fit for planting out in rows three feet apart each way.

It is worth recording that a well known dairyman in Natal values his 600 acres of paspalum more than he would an entire 3,000 acre farm of ordinary veld. *Phalaris commutata* is another drought resisting grass which if it grows as well in this country as in Italy should surpass *Paspalum* as an asset to a dairy farm.

The dairyman's category of winter feeds is not complete without the addition of Pumpkins, watermelons and carrots, etc., which supply the necessary lucsciousness and balance the otherwise somewhat dry rations.

Southern Rhodesia Fencing Ordinance, 1904.

(Compiled.)

The procedure necessary to obtain the enactment of the fencing ordinance of 1904 briefly stated is as follows. The owners of landed property in any district desirous of having the ordinance brought into operation should first frame a petition in the form set forth below.

PETITION IN TERMS OF SECTION 4 OF THE FENCING ORDINANCE, 1904.

District

Date

To the Director of Agriculture, Salisbury.

Sir,—We, the undersigned, being residents of Southern Rhodesia and the owners of the landed property situated in the District of, Province of as described below, do hereby beg and request that His Honour the Administrator may be pleased, in terms of Section 4 of the Fencing Ordinance of 1904, to put into force and apply the provisions of Part 1 of the said Ordinance to the undermentioned area.

Description of Area:—

That District, or that portion of the District of (as the case may be) within the following boundaries. From the beacon of farm along the and boundaries of this farm, thence along the boundaries of farms, etc., etc., etc.

Signature.	Residence.	Name or Description of Landed Property owned.

This petition should be signed by at least two thirds of the owners resident in Southern Rhodesia (not necessarily resident on the land they own).

A notification is to be issued in the "Government Gazette," and one or more newspapers (if any) published and circularising within the District at least once a week for three consecutive weeks, on the lines of the following form. If there is no newspaper published in the District the Notice should also appear in the paper published in the nearest District.

NOTICE.

FENCING ORDINANCE, 1904.

Notice is hereby given that it is the intention of owners of landed property situated in the District of as described below, to petition His Honour the Administrator to bring into force and apply the provisions of Part

I of the Fencing Ordinance of 1904, to the undermentioned area :—

Description of Area :—

That District, or that portion of the District of (as the case may be) within the following boundaries. From the beacon of the farm along the boundaries of this farm, thence along the boundaries of the farms etc., etc., etc.

Dated at , Signed this day of 1909, for self and Co-petitioners.

As soon as these formalities have been complied with, the petition, accompanied by a copy of the notice and a sketch map of the district or area referred to, should be forwarded under a covering letter to the Director of Agriculture, Salisbury, requesting him to submit to and recommend the same for the consideration of His Honour the Administrator.

The covering letter should state the dates of "Gazette" and newspapers in which the notice appeared, and it should be signed by an owner or agent representing the petitioners to whom all subsequent correspondence on the subject will be addressed by the Director of Agriculture.

When the proposal has received the sanction of His Honour the Administrator, it then becomes competent for any farmer within the area to require his neighbours to share the cost of fences erected on mutual boundaries. In the case of disagreement as to ways and means, the matter is to be settled by arbitration. In certain cases payments may be made by instalments.

Owners of land adjoining an area on which the fencing Ordinance is duly proclaimed, must contribute towards the cost of fences on that boundary. Special provision exists for the cases of absent owners, tenants, and of tenants with a right to purchase. Adjacent properties are responsible jointly for necessary repairs to their common fences.

The Ordinance does not affect the case of existing fences.

Copies of the Fencing Ordinance No. 18 of 1904 may be obtained from the Controller of Printing and Stationery, Salisbury.

Ticks and their Destruction.

(From a Report by C. R. EDMONDS, G.V.S., Bulawayo.)

The question of the destruction of ticks owing to their increase in numbers, and the losses occasioned by them is becoming more acute yearly.

Given a fenced farm and other conveniences, I think it would be possible for a farmer to entirely rid his farm of the pest, but whether it would be advisable to do so, is a disputed point, and one which I do not propose to deal with in this article farther than to point out some of the reasons. It is considered by some that by so doing a farmer would render his stock more susceptible to the various tick conveyed diseases common to the country. While the animals were on the tick free farm they would be all right, but as soon as they were taken off the farm to tick infested country, it is argued they would develop the tick disease with heavy loss of life.

I do not think there is any need for a farmer to worry over this point, because, although it might be possible to get a farm absolutely tick free, it is easier said than done. The chances are that he would find, that after he had done quite a lot of destruction there would still be a sufficient number of ticks left to inoculate his stock with the local disease.

At the same time I think all will agree that the matter of tick destruction is worthy of consideration, and although we have not reached a stage where farming is impossible on account of the ticks and possibly never may do so, although no artificial means were taken to destroy them, yet the loss of animals, the worry to the animals and extra work required on account of this pest makes the reduction of ticks imperative.

To take some of the diseases and losses due to ticks, mention may be made of the following :—

Redwater or Texas Fever has been very virulent during the past season, to quote the old adage, "Bad tick year, bad redwater year" has been found by experience to be true, and apparently the virulence of the disease is due to a great extent to the number of infected ticks feeding on a susceptible animal at the same time. For instance, it is fairly safe to import susceptible cattle in the winter months when ticks are few, the animals then appear to get a mild infection often unnoticeable, and are acclimatised and immune

by the time the flush of ticks arrive in the summer. Locally bred cattle too, in bad tick years, have their immunity broken down and deaths from redwater occur. Redwater is more severe in some parts than others, particularly on the commonages and main roads where the ticks are more plentiful.

It is with young stock that ticks cause the greatest loss and annoyance, the tuft of the tail in calves is a favourable place for ticks, and it is quite a common thing to see calves with the tuft of their tail lost through their bites. Sometimes one or more of the teats are lost in heifers. Between the fore and hind legs and in the heels are other favourite places, in any of which open sores are caused that sometimes end fatally, and if they do not, they cause so much worry to the calves that they cannot thrive, and grow as they should do. Goats too suffer a lot from the ticks, and the latter cause the goat and sheep herd boys quite a lot of exercise catching the lame animals, and either picking the ticks off or stabbing them with a thorn. The heels, between the claws, and between the forelegs being the favourite location in these animals.

It is a noticeable fact that with all stock, young or mature, that the poorer the condition of the animal, the greater the number of ticks that will be found on it. Why is this? Is it because the ticks choose a sickly animal, or because they have a better chance of becoming attached to it while in low condition; or is it that the presence of a large number of ticks by blood sucking, and consequent irritation bring the animal to a low condition.

The preceding do not of course include all the losses or diseases conveyed by ticks. Biliary Fever in horses, mules, donkeys and dogs is another fruitful cause, as in African Coast Fever. Think of the advantage a farmer who had his farm more or less free from ticks would have if this disease or a similar tick conveyed disease was to rage in the country once again. We know that a great proportion of the diseases zootic in South Africa are conveyed by ticks, and every year knowledge is being gained of other diseases being conveyed by ticks or similar blood-sucking insects or parasites.

The methods that have been adopted to destroy ticks on cattle are two, viz. :—Dipping and spraying. I do not wish to enter into the relative methods of either practice as both in my opinion have drawbacks (which I will point out) and do not approach an economic or ideal way of

handling cattle for tick destruction; at the same time until something better is evolved it is better to destroy ticks by these means than not at all.

By dipping, the animal is completely immersed for a few seconds in the dipping fluid. The best and only permanently serviceable tank so far as my experience goes is the one that is excavated in the ground, and built up with either concrete, masonry, or brick with a cement plastering, and a cement dripping yard for the animals to stand and drip in, to allow the excess of fluid to run back into the tank. The drawbacks to this method in my opinion are:—

(1) Cost of Tank. Built as cheaply as possible, providing it is well and substantially built, it will cost a lot of money.

(2) Cost of material to fill and work same. As a fair estimate it takes 3,000 gallons for the tank. Each beast will take about a gallon of fluid away in its coat, so you have to have a supply of dip ready to keep filling the tank up. The animals defecate and urinate into the tank. It is not used every day and varying lengths of time are allowed to elapse between the dippings. When the tank has been long in use it is often found that the fluid has become so polluted that the dip has to be thrown away and the tank cleaned out. 3,000 gallons of dip whatever the material used, costs too much money to be thrown away.

(3) The rough usage that the cattle receive to force them into the tank: the wilder the animals are, the better they "follow my leader" through the tank, but the majority of Rhodesian cattle are tame, and used to being handled, and with them it is usually a case of brute strength to drag, or push them into the tank. As it is necessary for the cattle to go in with a plunge to be completely immersed it is not safe to dip cows heavy in calf.

Other minor objections exist with this class of dipping tank, but the foregoing are the chief.

Spraying has been done with either a Success or a Douglas Spray Pump, other similar pumps are in use,—those are the two however that I have had experience with, and are both very good and useful pumps.

The objections to this method of tick destruction are:—

(1) Waste of dipping fluid. During the operation a certain amount of fluid passes over, under, and at the sides of the animals body, and is lost.

(2) The time required, and the number of hands it takes to thoroughly spray a herd of cattle.

(3) The cost of spray pumps owing to the different parts getting out of order.

Such are the two methods which have been employed, and which I think, could be improved upon.

The Seabury Cattle Spraying Machine is an American invention for dealing with cattle infected with scab and lice in America. The cost of this machine places it beyond the means of the average farmer, but I think the principle upon which it is worked could be utilised with advantage in the destruction of ticks. One of the machines has been obtained by Messrs. Cooper and Nephews, and is at work on their farm Gonubie Park, near East London. A description of the machine at work was given in the "Agricultural Journal" for December, 1908. This well known firm is making experiments with it and have promised a further report, and I think something will be done that will be of benefit to the farming community generally.

The principle of the machine is that cattle pass through a tunnel, and whilst they are within this tunnel are thoroughly drenched by spraying. Iron pipes pass round the inside of the tunnel from which the spraying fluid is forced into smaller pipes terminating in nozzles, which emit the fluid in a spray, the force used being a centrifugal pump supplied from a tank at hand.

I think this method will have many advantages over the two methods which have been so far employed in Rhodesia, or possibly a combination of all three may prove the solution of the problem.

AGENTS USED FOR DESTROYING TICKS.

So far the agents used for this purpose have been two, arsenic and paraffin.

(1) Arsenic.—This drug has been used either in its simple form as the Arsenite of Soda or Proprietary Dips of which it is the active ingredient, or else as white Arsenic boiled up with Soda, Stockholm tar, etc., what form does not appear to make much difference. The Arsenate of Soda is the cheaper form. The cost of dipping or spraying by Arsenite is however rather high. By economy in saving the fluid, and using it over again, the cost would be reduced considerably.

There is one very great objection to the use of Arsenic as a tickicide. I refer to the poisonous properties of the drug.

There is little doubt that Arsenic can be absorbed through the skin during the process of dipping or spraying, and death may result from such absorption. This power of absorption does not always appear to be present, but for some unknown reasons it appears from practice that this occasionally takes place and may result in the death of the animal.

Paraffin is a good tickicide used in the proportion of 25 per cent. to 75 per cent. water, but the cost of the material prohibits its use on an extensive scale, and another difficulty is experienced in getting the correct percentage, it will not mix with water and consequently can only be used as a spray through a spray pump that has a regulator affixed to allow the correct amount of paraffin through. In practice this is found to often get out of order, and if you put on too little paraffin the ticks are not killed, if too much you find your cattle blistered in all the tender parts between the thighs, etc., very stiff and sore and showing a difficulty and disinclination to walk or feed.

From the foregoing remarks readers will conclude that I have not a great opinion of the agents that have been so far tried for tick destruction, neither have I, but suppose we must endeavour to rub along with them until something better is discovered.

The discovery of a new material is far from being an easy matter. A suitable material must in the first place be cheap, and secondly it must kill ticks without injuring the stock. As the tick with its hard shell-like covering is a much lower organism than the host a good many materials if used would kill the host quicker and easier than they would the tick. I had the idea that perhaps tobacco juice would answer the purpose, it could be grown and prepared on the farm and so obtained cheaply, but on making inquiries I am informed that it has been tried unsuccessfully in Cape Colony. Another idea is, if ticks ever suffer disease (they never seem to do so) of a fungoid nature that they could be sprayed with a cultivation of such fungus similar to that used for locusts. If a new material is found I expect it will be after a series of investigations and experiments such as can be undertaken by the South African Governments, but too expensive to be undertaken by an individual.

Eastern Farmers' Co-operative Society.

In our April number was reported the formation of the Farmers' Co-operative Society at Salisbury. We now announce another society newly formed with Umtali as its head-quarters.

Mr. E. M. Jarvis, G.V.S., informs us that the society has been formed with the object of affording protection to the farmers from the competition of the traders, more especially the Greeks and Indians, and also against the competition with Portuguese grown grain. There is no idea of forming a corner in the market on the part of the farmers. As Mr. Jarvis states, supposing this intention existed, there is little chance of its being developed with the price at which Portuguese mealies can be landed at the respective railway stations.

There can be no doubt that these societies are of much value to any agricultural country, more especially is this the case with a young country like Rhodesia, and it is a good omen to find them being formed in each farming district.

At the same time it seems a very desirable thing to have unity between the societies in the various parts of the country. A representative committee appointed by the various bodies, to meet and discuss the many questions that may arise with regard to administration and the general carrying on of business would probably be of much use. One effect of the new Agricultural Co-operative Societies Ordinance will doubtless be to render such associations in future uniform in organisation and procedure, rendering combination amongst them possible and easy.

The constitution and rules of the society are as follows:—

EASTERN FARMERS' CO-OPERATIVE SOCIETY.

MEMORANDUM OF AGREEMENT entered into
this..... day of..... 1909, between

.....
farmers in the Eastern Electoral District of Southern Rhodesia hereinafter referred to as "The Society."

It is mutually agreed as follows:—

OBJECTS OF SOCIETY.

1. To organise and establish in the said District of Southern Rhodesia a co-operative Society composed of *bona fide* farmers and traders of European descent comprising those whose names are affixed hereto, and such others whose admission may hereafter be approved of, for any or all of the following purposes:—

- (a) The negotiation of loans and advances from Government or any other body or institution whatever, such loans to be applied for development purposes on the farms of the members of the said Society.
- (b) To purchase, on behalf of the members of the Society, farm requirements of all kinds, including seeds, fertilisers, agricultural machinery, fencing material, irrigation machinery and equipment, and such other articles and things as may be approved of by two-thirds of the members of the Society.
- (c) To make such arrangements as may be deemed advisable for the sale of all kinds of agricultural produce.
- (d) The erection and maintenance of depots, stores, offices, or any other buildings, or the lease and hire of such buildings for the joint use of the members of the Society.
- (e) To arrange for the establishment of market agencies, either in local or over-sea markets, for the disposal of produce in bulk or otherwise, and to devise schemes for the more convenient transit and sale of farm produce.
- (f) The purchase for the use of members of approved stud stock under such regulations as may be approved of by two-thirds of such members.
- (g) To carry on any other work of development incidental to the improvement of farming in the Eastern Electoral District of Southern Rhodesia.
- (h) To arrange for advances from the Bank or other institutions for the purposes of making advances on produce, and for such other purposes coming within the category of classes of business as defined in this agreement, as may be decided upon under powers granted by Clause 6 hereof.

2. All loans or advances negotiated by the Society shall be secured upon the joint and several promissory notes binding the members of the Society jointly and severally and *in solidum* for the discharge of such liabilities as may be incurred in any manner whatsoever, at such rate of interest as may be arranged between the Government Bankers, merchants, or others.

BOARD OF MANAGEMENT.

3. To appoint from said members such number not exceeding twelve to act as a Board of Management for the Society for the period between the date of this Agreement and the first Annual General Meeting. At the end of such period, and at each Annual General Meeting all members of the Board of Management shall retire out, but shall be eligible for re-election. The Board of Management shall be continued from year to year by election at each Annual General Meeting, all members of the Society being eligible for election.

4. To appoint from time to time a member of the Board of Management to be Chairman, and to appoint a Secretary and Treasurer who need not necessarily be a member (hereinafter referred to as "the Secretary") and to open an office at Umtali.

5. The Society to be styled THE EASTERN FARMERS' CO-OPERATIVE SOCIETY.

6. To co-operate for all the aforesaid purposes in such manner as the Board of Management may decide, subject, in all cases where the liability of the members of the Society is involved, to the approval of two-thirds of the members of the Society duly convened in special general meeting upon not less than fourteen days' notice.

VOTES BY PROXY.

6a. Notwithstanding anything contained in the foregoing Clause votes may be recorded personally or by proxy. The instrument appointing a proxy shall be in writing under the hand of the appointer, his attorney or other duly authorised agent.

6b. Every instrument of proxy shall be in the form or to the effect following and shall remain valid and in force until written notice revoking it shall reach the Secretary:

I..... of..... a member of the Eastern Farmers' Co-operative Society of Southern Rhodesia, hereby appoint..... of..... or failing him..... of..... as my proxy to vote for me on my behalf at any meeting of the Eastern Farmers' Co-operative Society and at any adjournment thereof.

As witness my hand at..... this day of.....

19 .

As witnesses :.....

ACCOUNTS OF SOCIETY.

7. To open an account at the Society's Bankers in the name of the Society.

8. To pay all monies received or contributed into such account.

9. To cause to be kept proper accounts and books, which shall always be open to the inspection of any member, and cause to be framed on the 31st day of March of every year, or as soon as possible thereafter, a general balance statement of the assets and liabilities, such statement to be signed by two of the members of the Board of Management.

10. The first Auditor or Auditors shall be appointed by the Board of Management, subsequently he or they shall be appointed by the Society at the Annual General Meeting, at which his or their remuneration shall be fixed.

11. All cheques to be signed by two members of the Board of Management and countersigned by the Secretary.

12. To make such charges upon purchases and sales of all commodities dealt with on behalf of its members as may

be necessary to cover the working expenses of the Society, and to provide for Capital and Reserve Fund.

13. The Annual General Meeting of the Society shall be held in the month of April for the consideration of audited statements of receipts and expenditure and for the transaction of such business as may be necessary.

14. The Board of Management shall arrange terms of credit with individual members and shall demand such further security as they may deem necessary.

15. The Board of Management may employ such persons as may be necessary to give full effect to the purposes of the Society, and arrange the remuneration of such employees.

REGULATIONS.

1. Every member shall bind himself to dispose of, through the Society, the whole of his stock of Maize, Ropoko, Munga, Wheat, Kafir Corn, Buckwheat, Barley, Oats, Peas, Beans, Monkey Nuts, Forage, Fodder, Hay, Chaff, grown in Rhodesian Territory, with the exception of what he requires for his own farming and domestic purposes. This list is subject to revision at the Annual General Meetings of the Society, on the vote of two-thirds of the members, on the advice of the outgoing Board of Management.

2. Any other farm produce may be consigned at the members' own risk. The Society shall dispose of this to the best advantage, and charge such commission as the Board of Management may decide.

3. Notwithstanding anything contained in Clause 1 of these Regulations or elsewhere, members shall be allowed with the consent of the Board of Management to dispose of a limited amount of seed for their own benefit. All sales shall, however, be through the Society, and the amount obtained shall appear in the Society's books, and the commission shall be the same as chargeable for produce received under Clause 2 hereof.

4. As soon as a member shall have delivered any produce enumerated in Clause 1 hereof he shall begin immediately to share in the amounts received by the Society on account of sales made, in proportion to the quantity so delivered by him at a basis price to be fixed by the Board of Management.

5. Should the Board of Management fix the basis price higher than the average price obtained throughout the year, the excess paid to members to be refunded by such members to the Society when called upon to do so.

6. At the end of each financial year the average price obtained for each kind of produce shall be arrived at after deducting Transport, Storage and Insurance Charges, and losses of all kinds, from the gross receipts, and each member shall be entitled to receive the average price thus arrived at, less 10 per cent.

7. After deducting working expenses from the ten per cent. deducted as above, a sum up to and not exceeding one-quarter of this amount shall be placed to the Credit of Capital account. Any sum remaining over shall be dealt with in accordance with the decision of the majority of members present at the Annual General Meeting.

8. The amount placed to the Credit of Capital Account shall be apportioned among members in direct ratio to their contributions, and shall carry interest at the rate of (6 per cent) six per cent. per annum, which interest shall be payable annually.

9. Subject to the completion of financial arrangements with the Bank, members may receive a fifty per cent. (50 %) advance on the basis value of all produce enumerated in Clause 1 hereof, delivered by them to the Society, such advance not to exceed 5s. per bag of 203 pounds in the case of Maize; such advance to bear interest at the Bank rate and be repayable month by month as the members' produce is disposed of. Half the amount of sales to be devoted to the repayment of advance.

10. Notwithstanding anything contained in these Regulations, the Society is not bound to find storage for perishable produce, such as Potatoes, Sweet Potatoes, and other produce as in the opinion of the Board of Management may come under this category, which can only be accepted when ordered by the Board of Management in quantities to suit the Market. No advances shall be made on such perishable produce.

11. Members must inform the Board of Management in writing of the quantity of their crops immediately after harvesting, and the amount they intend holding back for farming and domestic use. If the crop of a member be damaged or destroyed through circumstances beyond his

control, so that he cannot fulfil his engagements towards the Society, he will be relieved of his obligations in respect of such crop if he instantly advises the Committee to that effect. If any member fails to fulfil his engagements towards the Society without the reason provided for in the foregoing he shall be responsible for any loss and damage the Society might sustain through his action.

12. Notwithstanding the provisions contained in Clause 1 of these Regulations, prospective members who have pledged part or the whole of their crops before joining the Society shall be released from their obligations to the extent of their pledges, on forwarding a written statement of the same to the Board of Management, but not otherwise be debarred from exercising the other privileges of membership.

13. Every member must at the time of entrance sign his name in the Memorandum of Agreement and by his signature bind himself to the existing Regulations and any additional regulations or alterations of regulations which may be lawfully made from time to time without any notice from the Society being required.

14. A member may resign at the end of a financial year provided he has given the Secretary three months prior notice in writing. The acknowledgment of such notice of resignation must be made in writing by the Secretary with as little delay as possible. Any member so resigning shall be entitled to withdraw from the funds of the Society any sums of money contributed by him as and for capital in terms of Clause 7 of these Regulations. A member may be expelled at a special General Meeting called for the purpose. Resigned or expelled members have no claim on the reserve fund created by the Society.

15. Depots shall be established at Umtali, Old Umtali, and Inodzi, and any other centre the Board of Management may consider necessary.

16. Delivery of produce shall be made at the Umtali Depots by the consigning member, unless it shall, in the opinion of the Board of Management be more advantageous to the Society that delivery be made elsewhere. Position of member in regard to Market, and extra expense entailed by any change of Depot to receive proper consideration by the Board of Management in any alteration of that centre. Cost of delivery to Depot shall be borne by the consigning member.

17. The cost of transference of produce from Depot to Depot or to Consumer, and storage and Insurance charges shall be a debit against the gross receipts of the Society.

18. Members must give the Secretary seven days notice before consigning.

19. A representative of the Society shall be appointed at each Depot. Upon delivery of the produce at a Depot in good condition a receipt shall be given to the consigning member or his representative, and the responsibility of handling, storing and disposing of such produce shall thereupon be assumed by the Society. The representative of the Society at each Depot shall have the right of refusing acceptance if such produce in his opinion is not in good order nor in a marketable condition. Produce rejected may be disposed of by the member, or by the Society, at his request.

20. Every member shall register a distinguishing mark with the Society, which he shall place on every package of produce sent in by him for disposal.

21. The purposes for which loans can be used for the year 1909-1910 in terms of Section 1, Clause H of the Memorandum of Agreement shall be:—

- (a) For furnishing advances on produce in terms of these Regulations.
- (b) For the purposes stated in Section 1, Clauses C., D., and E., of the Memorandum of Agreement, provided that the sum borrowed under this head shall not exceed £250 (Two hundred and fifty pounds sterling).

22. A special General Meeting shall be called at any time upon the requisition signed by not less than ten members sent to the Secretary at least twenty-one days before such meeting is to be held. The special business for which the meeting is to be called must be stated on the requisition.

23. The position of a member of the Board of Management shall be honorary, but travelling and out of pocket expenses shall be refunded when travelling on the business of the Society.

24. Meetings of the Board of Management shall be held as often as may be necessary. At all such meetings three shall form a quorum. All vacancies occurring from whatever cause shall be filled by the remaining members of the Board.

25. Any member of the Society shall have the right to attend any meeting of the Board of Management in order to bring forward any special matter of grievance.

26. The first Board of Management shall consist of the following :—

Messrs. C. S. Heron, C. Boyd-Clark, Frank Lapham, Ll. Lloyd, E. L. Wright, R. W. Cockerell, J. Meikle, L. Cripps, E. M. Webber, who shall hold office until the first Annual General Meeting. The first Chairman of the Society shall be Mr. J. Meikle, and the first Secretary and Treasurer shall be the Secretary of the Manica Board of Executors, Limited.

27. All meetings shall be convened by notice posted to the members at their address fourteen days before the day appointed for the meeting.

28. No alterations of the present Regulations shall be made except at a meeting specially called for the purpose at which at least one-third of the members registered on the books of the Society shall be present.

A Winter Grass.

By F. E. WIENHOLT, Inyanga.

As it may be of interest to some of your subscribers, I write to give you my experience here of the new grass "*Phalaris commutata*" that is attracting much attention throughout the Southern Colonies.

I procured two ounces of seed last year which cost me £1 per ounce. This I sowed in a small plot in my kitchen garden on February 12th, 1908. It grew luxuriously through the Winter months, never changing its colour,—a vivid green; when it seeded, the heads of seed stalks were over 5 feet high.

Early in October I planted out about 50 roots, a foot apart each way, these have now overlapped and are seeding.

I have just planted out 18,000 plants from this same two ounces sown in February and have collected a fair number of seed heads which are ripening. I have sown 6 rows 18 yards long from seed already ripened, and this is just coming through the ground.

I believe seed can now be purchased in Australia for 5s. an ounce.

It is certainly the most promising looking grass yet grown in my experiments here.

It is very deep-rooted, which makes it so drought resistant, and frost does not appear to affect it.

Any farmer buying a few ounces and then transplanting the roots out the following Summer, will have a lovely evergreen pasture, and should never regret having tried this grass.

[NOTE.—It would appear from an article written by Dr. Ewart, Government Botanist, and Professor of Botany at Melbourne College, in the "Agricultural Journal" of Victoria, that this new Winter grass has been imported into South Africa under an incorrect name, and some discussion has recently taken place concerning it.

Dr. Ewart states that the grass came from the Agricultural Department of New York about twenty years ago, with about sixty other grasses. The controversy concerns the specific name, and as some very weighty authorities in Botanical science disagree on the subject, it will be well to be content for the present with *Phalaris* sp. and for popular purposes it has the euphonious title of "Toowoomba grass."

Touching the economic value of this grass Dr. Ewart states:—

"The reports on this grass were conflicting, but it is generally agreed that it grows well in winter, seeding itself in December, when it becomes hard and coarse."

At the Experimental Nursery, Salisbury, seed sown in Nursery beds towards the end of January have come up well and a quantity of transplants will be available next planting season.—ACTING EDITOR.]

An Economic Botanical Collection.

£15 IN PRIZES FOR SCHOOL CHILDREN IN RHODESIA.

Attention is directed to a series of prizes offered to School Children throughout Rhodesia, and rendered as simple as possible to encourage numbers to compete. The conditions offered sufficiently explain themselves.

The desire is to gain information with regard to the possible economic importance whether as products of commercial value or because of the dangerous or objectional properties of plants found in different parts of the country.

It is possible that by this means things of great utility may be brought to notice, at the least the distribution of certain plants or trees with useful qualities will be learned.

Within the limits of Rhodesia, with its varied conditions of soil and climate, and such natural flora, there are doubtless to be found natural products of considerable value if their existence can but be brought to the notice of those requiring them, or if methods of profitable exploitation can but be devised for their extraction, culture or manufacture.

Though offered as prizes to children, there is no reason why adults should not assist in this work, either by contributing to collections or sending specimens direct to the Department of Agriculture.

When this is done all information possible should be supplied as mentioned in the directions given, and especially as regards quantities available and costs. Such products will be examined and every endeavour made to ascertain what markets exist or can be made.

The process is necessarily a slow one, but the reward, should even one or two commodities of value be brought to notice, may well be worth all the trouble and time involved.

PRIZES AND RULES OF COMPETITION FOR THE BEST COLLECTION OF PLANTS OF ECONOMIC IMPORTANCE.

(1) The prizes under-mentioned are offered by the Department of Agriculture to pupils in schools throughout Southern Rhodesia for the best collection of dried specimens of plants of economic importance growing within the

Territory. Collections need not be very large to secure a prize.

(2) Several scholars may join together for the purposes of the collection. Competitors need not personally have collected all the specimens or the facts concerning them.

(3) With each specimen the following particulars should be supplied as far as possible.

- (a) English and native name, if any.
- (b) Habitat or kind of place where found growing, *e.g.*, if marshy, dry ground, etc.
- (c) Date.
- (d) Approximate altitude.
- (e) Geographical position or locality.
- (f) Colour of flowers.
- (g) Height or usual size of plants.
- (h) Use or property such as grazing, hay, fencing, tanning, oil, fibre, stain, bark, medicine, poison, food, grain, gum, timber, weed and so on. It should be clearly stated what part of the plant has the use or property above described.

(4) Each collection is not to exceed 100 specimens and each specimen is not to exceed as much as will lie upon one sheet of paper 10 by 16 inches (any larger are to be folded to the size or cut and arranged upon two sheets). Specimens need not be mounted but may lie loose upon sheets of old newspaper. Specimens of wood, which should include a piece of the bark and not be less than 6" by 8" by 2", should be accompanied by twigs showing leaves, flowers, fruit, etc. Likewise specimens of bark.

(5) The specimens are to be sent to the undersigned and are to remain the property of the Department of Agriculture.

(6) The crops ordinarily grown by Europeans are not to be included in the collection.

(7) The prizes will be :—

For the best collection £4

For the next collection £3

For the five next best collections ... £1 each.

For the six next best collections ... 10s. each.

(8) The undersigned will be the judge of merit, but reserves the right of withholding any of the prizes in cases where the degree of merit appears insufficient.

(9) In judging of merit regard will be had :—

- (a) To the selection of the plants.
- (b) To the completeness of the specimens, showing flower and fruit, leaves, stem and roots.
- (c) To the completeness of the history of the specimens.
- (d) And to the manner of drying, complete and under proper pressure, due regard being given to the character of the specimen. Specimens are better dried the more frequently they are changed into fresh dry paper (newspaper suffices).

Competing specimens may be sent in any time up till the 28th of February, 1910.

(Signed) ERIC A. NOBBS,

Director of Agriculture.

National Afforestation.

By C. E. F. ALLEN, Department of Agriculture.

There is a worldwide movement taking place at present towards the solving of the many problems of national afforestation. A recent conference on world resources met at Washington at the invitation of the President of the U.S. of America and included representatives from the United States, the Dominion of Canada, Newfoundland, and Mexico. It was proposed to embrace all nations in the movement by means of an international conference to be held on world resources, at the Hague next September. In a declaration of principles the objects enumerated include Public Health, Forests, Waters, Lands, and Game Protection. Under Forests, the declaration reads "We recognize the forests as indispensable to civilization and public welfare. They furnish material for construction and manufacture, and promote the habitability of the earth. We regard the wise use, effective protection, especially from fire, and prompt renewal of forests on lands best adapted to such use as a public duty devolving upon all forest owners alike, whether public, corporate, or individual." One of the speakers, Mr. Charles L. Pack, of the National Conservation Commission, recalled the estimates made 25 or 30 years ago of the timber then remaining in the United States of America. It was thought at that time that the forests would last two or three hundred years. Now it was well understood that the virgin supplies would be gone in thirty or forty years.

A Royal Commission sat in England recently on the question of afforestation and their report appears to have occasioned a good deal of discussion. The Commission stated that in less than thirty years, there would be no timber available unless the different countries of the world proceed at once with replanting.

At a recent meeting of the Authors Club, Mr. Pember Reeves stated "that the forests of New Zealand within sixty years had been reduced from 30 to 17 million acres and pleaded that the question was something more than insular, since there was a danger that forests were disappearing off the temperate zones of the earth, and advised that in this matter the mother country should set an example to the Colonies." ("Field," April 3, 1909.)

Conferences, Commissions, and meetings on an important subject as this do some good if only to give impetus to planting and care of forests. Tree planting may appear to the majority of Rhodesians to-day to be an undertaking wherein the return is too slow to be worth bothering about. This is not so. Once a plantation has become established it has an inherent value. After the first three years it begins to yield shelter for the cattle and crops, wood for the fire, health to the people and beauty to the landscape. Besides all these minor benefits the trees are ever increasing in size and value. A well wooded country is also a generous agricultural one. There are localities round some of the mines where timber for fuel is already becoming scarce. In places situated at a distance from the coal fields and often a long way from the railway it is imperative that there be a constant supply of wood for fuel and other purposes. There is no substitute for wood as fuel in these places. The remedy is to plant on an acre for an acre principle and so make sure of some of the gaps made to-day being filled in time to come. Reforms are needed in this country to prevent the burning of the veld, and are to be gained only by public interest being awakened. The law of the country is already very strong on the subject, but the difficulties to be contended with in the carrying out of these laws are great. To trace the origin of a fire is often a puzzle in large towns, how much more difficult is it in a vast country such as this. Many of the fires are probably started by natives who are more or less ignorant of the damage they may be doing. Particular care should be taken when burning grass that good fire paths enclose the fire. On most of the farms to-day firepaths are cut round the lands and this makes it difficult for a fire to come on or go off the farm.

With fewer fires the indigenous timber trees would have a much better chance of making straight and useful timber than they have to-day.

With regard to planting, no one can make a living straight away by tree planting but it would be a profitable undertaking to plant to some extent every year. The subject is worthy of serious thought by all who have a stake in the country, and most of us claim some affection for the country of our adoption. Here then is an opportunity to show the worth of our professions.

Poultry.

By PHILIP L. HALL, Lanham Farm, Syringa.

Several cases of wholesale deaths in the poultry yard have been brought to notice recently; these periodical outbreaks are serious enough to merit the closest investigation by all interested in the poultry rearing industry. Up to the present little appears to have been done to ascertain the cause and nature of the disease. The average poultry keeper will inform you that his birds died of "fowl sickness." Seldom, if ever, do you hear of a fowl dying of any other complaint. That a disease of a very virulent nature exists there is no room for doubt, but until careful examinations are conducted by those who suffer these heavy losses, and the reports collected, little can be done in the manner of dealing with it. I purpose in this article giving some brief details which may assist the amateur in making a practical examination of a dead bird, and perhaps enable him to locate the disease that brought about death.

It will greatly simplify matters if we divide the internal organs into three parts, viz. :—1. the organs of respiration ; 2. digestion ; 3. reproduction. The first of these consists of the lungs and heart. Air is inhaled into the lungs where it comes in contact with, and is absorbed by, the blood. The latter, as we are all aware, circulates through the whole system, and in doing so the oxygen of the air which it contains is brought into contact with the absorbed constituents of the food, and chemical action producing the warmth and life of the body results. Thus the heart and lungs are inseparably connected and are the most important organs of respiration. The portals through which the air enters the body are the nostrils, situated at the upper part of the base of the beak. Then, just behind the tongue, there is a small slit, called the glottis, which in a living fowl is seen to be expanding and contracting as the bird breathes, and which is the entrance to the trachea or wind-pipe, the channel through which the air passes to the lungs.

It is now necessary to trace the course of some food which is swallowed by a fowl and note the various portions of that passage from the back to the cloaca, known as the

alimentary canal. It is common knowledge that the food is swallowed whole and enters first the crop,—which is a distended or enlarged portion of the gullet, and situated between the outer skins of the front part of the breast and the inner carcase. In the crop the food is softened and prepared for further treatment. Passing on it enters another distended portion of the alimentary canal called the procutrical—really the fowl's stomach—where it is still further acted upon by the gastric juices secreted by the walls of that organ. Then the food enters the gizzard, which is a tough muscular organ containing a number of small stones which the fowl swallows. Here a grinding process goes on until the food is reduced to a soft state, after which it passes out into a small intestine carrying with it those particles of grit which have become smooth and of no further use. The food in the small intestine is now treated by the bile, a fluid secreted by the liver, and by the pancreatic juice, so that it comes into such a condition as enables it to be assimilated. Any refuse, disused grit, and other substances of no use are passed away by the rectum, and the kidneys extract from the blood any remaining impurities that it may have absorbed from the food or which have been formed in the chemical changes taking place during the process of assimilation.

Of the reproductive organs little need be said, but it is worthy of note, that in a hen that is laying, or is about to do so, a cluster of ova, or embryo eggs, may be seen attached to the back. These are of varying sizes, from that of a yolk of an egg to a speck that is almost invisible. In fact each of these ova, when mature, is a complete yolk and nothing more, and as they attain their full dimensions they break away from the cluster and enter the oviduct, which is a long winding passage from the ovary to the vent. During its passage along the oviduct the yolk first becomes covered with white or albumen, then the membrane is added, finally the shell, and the perfect egg is expelled. Having so far taken a brief survey of the general uses of the principal organs of the fowl, it will be easier to understand the process of performing a post-mortem examination.

(To be continued.)

Cedrela Toona.

By C. E. F. ALLEN, Department of Agriculture,
S. Rhodesia.

The Toon-Wood Tree can be recommended for planting in Rhodesia with confidence. It has grown well in various parts of the country such as at Livingstone, the Matopos Park, and near Salisbury in several places. It is apparently ant-proof, and will be a particularly good tree for planting on hillsides. At one time it was common in the Himalayas, and a height of 80 feet with a girth up to 20 feet was an ordinary sized tree. Cutting for timber in large quantities has now considerably reduced the number of trees of these dimensions in that country. The timber is known on the English Market as "Moulmien Cedar." The wood is described as brick-red, soft, shiny, even but open grain, seasons readily and rarely warps or splits. It is used for wood-carving, fine cabinet work and general purposes, it is used in the manufacture of cigar boxes very largely. The wood has no tainting aroma. From the bark an oil has been extracted and used with some success in the cure of dysentery. Cattle in India are fond of the leaves and young shoots.



Photo by] ·

Cedrela Toona, at Experimental Nursery, Salisbury.

[C. E. F. Allen.

Sesbania Punctata.

By ERIC A. NOBBS, Ph.D., Director of Agriculture.

A discovery of much possible value and great interest has been made at Westacre in the Matopos. Recently Mr. J. G. Macdonald of Bulawayo forwarded to the department of Agriculture specimens of a leguminous plant bearing large quantities of nitrogen forming nodules on its roots. It had been observed by Mr. Hull that at Westacre land on which this herb, originally regarded as a weed, had grown, supported much better crops of lucerne and oats than elsewhere. A specimen has been identified at the Royal Botanic Gardens, Kew, as *Sesbania punctata*. This is interesting in that recently in India a nearly related plant *Sesbania aculeata*, "Dainchu," has attracted attention and is there recommended as a green manure for paddy fields on account of its recognized fertilizing properties. The plant found at Westacre appears to be widely distributed in Rhodesia and another form possibly new to science was found by Mr. C. E. F. Allen occurring plentifully in the Zambesi Valley near the Victoria Falls. The indigenous occurrence and free growth sufficiently proves its suitability to the country. It only remains to avail ourselves of the good things bestowed upon us. In a land where artificial fertilisers are practically excluded by distance any other means of enriching the soil must be grasped. By growing this plant as a crop and ploughing it in while in flower and before it seeds the ground will be provided with nitrogen, the most costly of all plant food, for future crops, and a supply of organisms provided to inoculate any other leguminous crop such as lucerne, beans, that may be sown. Whether in this respect it is superior to cowpeas, lupins, or velvet beans experiment can alone show, but from reports received this seems quite likely to be the case.

Agricultural Reports.

(Compiled.)

A general impression gathered from reading the reports sent in by the courtesy of Rainfall Observers and others in various parts of the country is distinctly optimistic. Crops are reported good everywhere, and in most agricultural districts are above the average.

From Helvetia we hear that the coffee crop will be good, the trees being very healthy and loaded with berries. Maize crops both European and native are also extremely good, while the natives in the Sabi Valley have crops that will make up for the several years famine they have experienced.

Lions, wild dogs, and leopards have been more troublesome than usual.

From Enkeldoorn we learn that in the Charter district, everything has been in favour of Agriculture this season. The rains have been seasonable and well distributed. The crops everywhere are very fine and grain will be plentiful. The pasturage is all that can be desired. Horseshickness has been exceptionally severe and numbers of horses and mules have died. All other stock have been healthy and are now in superb condition. Locusts have been conspicuous by their absence. There have been no great efforts towards progress. On some few farms fencing has been done, otherwise the usual yearly crops and rearing of stock have alone occupied the attention of the farmers. It is unfortunate that this season should have been a severe one for human beings, horses and mules. Malaria has been rife and the trekkers who came up in the early part of the season have not had a favourable introduction to the country.

At Mrewas the native crops are above the average. European crops suffered in low lying lands from rust but not to any great extent—and only in the earlier planted fields. Potato crops are poor—no Tobacco is grown in this district. Most of the farmers have built comfortable brick homesteads. Irrigation schemes are contemplated and will be taken in hand this winter. Native labour has been scarce.

Sergeant Potter of the B.S.A. Police stationed at Tuli writes :—

“There are no European farmers in my district. The native crops though late, are excellent and fairly heavy, the lateness of the crops is accounted for by the scarcity of rain towards the latter end of last year, but since then rain has been plentiful, and all natives spoken to, and met by patrols, express themselves very well satisfied and expect a very good harvest.

“Owing to the abundant grazing everywhere and the water within easy reach, all stock are in very good condition, there seems to be no sickness at all, in all the various districts visited by police patrols, the same thing is reported.

“The season although late has been generally speaking a very good one, lately it has been exceptionally hot for this time of the year, but the great heat is followed as a rule by a heavy thunderstorm. From an agricultural point of view, I should think it has been an exceptionally good late season.

“Owing to the very few white inhabitants in this vicinity, progress is practically at a standstill, although when the rivers (Crocodile and Limpopo) are fordable, a considerable number of desirable immigrants come through this Territory.”

In the Matopos all crops, including those of the natives, are in splendid condition and quite surpassing all previous crops in that district for the last six seasons.

In the Mazoe and Gwibi districts wonderful crops are visible everywhere.

In the Victoria native district, the crops which at one time, in the early part of the season, did not promise well are now reported as being good. Near Syringa the yield and quality of the Maize and crops are said to be only fair. Mealie harvesting has begun in many districts. From all parts of the country rust in the mealies is reported this year, generally it does not appear to have damaged the crops to any appreciable extent. Root crops, potatoes, etc., are very good in Matabeleland and in Mashonaland, fair in most places, and good in a few. In the Transvaal a shortage of potatoes exists owing to the bad effects of the heavy late rains, and some of the produce merchants there have recently made serious inquiries as to possibilities of buying potatoes in Rhodesia to supply their

markets. Some doubt appears to exist as to whether we can spare any large quantity this year.

The season has been a good one to most farmers in the country in all agricultural aspects.

Tobacco has not been grown on as large a scale as last year, there is however a considerable acreage under this crop in the country.

Importations of well bred cattle have been numerous, some few of these have been unfortunately lost through Redwater, but most have survived the sickness and become, more or less, immune from further serious attacks.

Dates of Agricultural Shows and Meetings of Farmers' Associations, 1909.

AGRICULTURAL SHOWS, 1909.

Salisbury:—25th and 26th June.

Bulawayo:—16th and 17th June.

Umtali:—11th June.

Melsetter:—Not fixed.

FARMERS' MEETINGS.

Name of Association.	Place of Meeting.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Enkeldoorn F. Association	Enkeldoorn ...	26	31	28	25	30	27	25
Lomagundi	Eldorado Mine	12	10	14	11	9	13	11
Makoni	Rusapi ...	16	...	...	15	...	...	15
Marandellas	Marandellas ...	5	...	7	...	2	...	4
Mashonaland	Salisbury, 1 p.m.	5	3	7	4	2	6	4
Manica F. & Landowners Association.	Umtali ...	5	3	7	4	2	6	4
Rhodesian Landowners & Farmers Association.	Bulawayo, 3 p.m.	24	29	26	30	28	25	30
Do.	Matopos ...	27	25	29	26	31	28	26
Do.	Plumtree ...	...	1	...	...	7	...	...
Do.	Figtree ...	...	Dates	irregular.	...	...	...	...
Eastern District of Victoria	Farm Good Hope	12	...	7	...	...	6	...

The Rhodesian Landowners and Farmers' Association hold a General Meeting at Bulawayo on June 18th.

The Rhodesian Agricultural Union Congress meets at Salisbury on the 29th and 30th of June.

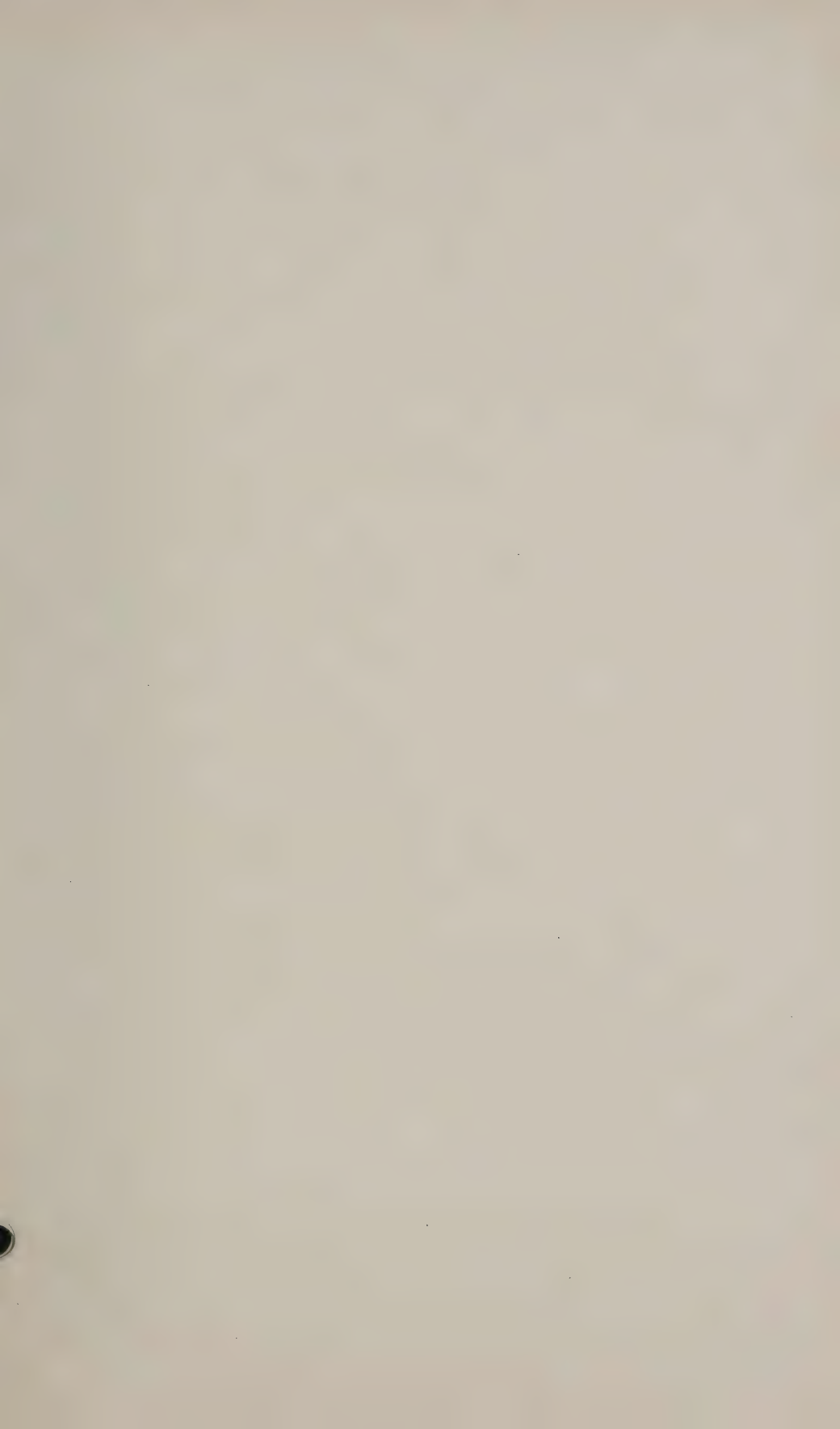




Photo by]

Plantains at the Homestead of Mr. H. Kirkman.

[C. E. F. Allen.

The Plantain.

By C. E. F. ALLEN.

Much confusion exists in botanical and economic literature in the nomenclature of the species of *Musa*. *Musa paradisiaca* is the generally accepted source of the plantain or larger bananas, while *Musa sapientum* is the smaller sweeter fruit called the banana. There are however many other species in commerce in different parts of the world, and no well marked distinction is recognised by botanists.

A practical line to take up is to call the larger, coarser varieties the plantain, and the smaller and sweeter, the banana, and to consider them as varieties of one family,—the one a vegetable and the other a fruit. In this article the Plantain is the subject under discussion. As a profitable undertaking for farmers, more particularly those having a local market in the large mining compounds, this crop deserves more attention than has hitherto been given it.

The plantain is one of the easiest plants in the world to grow once it has become established in a suitable position. In countries where the food is the national diet of the people the lower slopes of the hillsides are the usual places planted. The plantain likes moisture and warmth,—the lee side of a Kopje with shelter from the East Winds, moisture from the hills, rich land to grow in, and drainage for the roots appears to be the ideal site. It should be high enough to escape the severe frost that occurs in the valleys. The means of propagation and increment are young suckers which spring up round the old plant in abundance in a healthy grove. These should be planted out when about 3 feet high. In removing from the parent plant scrape the soil away to a depth sufficient to show the connection between the old and young plant, and then cut with an axe or sharp spade. Some difference of opinion exists as to what room should be given the young transplants. In British Guiana plantations they are set six yards apart in rows, and between the rows yams, maize, etc., are planted. In India 14 feet is the distance recommended. If there is sufficient moisture, wide planting is practical in this country, even then it possibly

would reduce the first year's crop, but the planter reaps the benefit of interculture of some minor crop of beans or other fertilizing plant, and gains in subsequent yields, and less thinning is necessary. Generally with the long dry winters 10 feet in rows and 10 feet between is the distance best to be adopted here.

The plantation after it has become established should be given frequent mulching with old farm-yard manures to make a deep tilth of mould which holds the moisture and keeps the roots cool and healthy. Much of the chances of success of the crop depends on this being well done. When fruit is forming the flower stalk should be watched, and when abortive attempts of forming fruit are noticeable beyond the ring of young fruit the flower should be cut off leaving an inch or two of stalk beyond the last formed fruit. If this is not done the flower head goes on growing and takes a lot of the goodness out of the plant that should go to the fruit. Dead leaves and old stalks of plants that have fruited should be left on the ground. The young suckers should be removed regularly from the older plants as soon as they are three feet high, leaving at most three suckers to bear fruit the following season.

In Ceylon 70 lbs. is an ordinary weight of a bunch, but from observations made of the bunches seen here 30 to 40 lbs. seems to be the usual weight obtained. Planting 10 by 10 feet means roughly 440 plants per acre. In the first season perhaps 75 per cent. only would bear fruit, but the second year an average of two bunches per stool should be returned, this would yield at the minimum rate of 30 lbs. per bunch,—26,400 lbs. per acre, or a weight equal to 132 bags of mealies.

The season of fruiting is practically continuous in a large grove, though naturally the heaviest crop is picked after the rains.

Plantain meal is prepared by the natives of Central Africa for storing and sale. They simply slice the fruit, dry it in sun and grind or pound it to powder. In Mexico, according to Colonel Colquhoun, the fruits are exposed to the sun, when they begin to wrinkle they are peeled. If the skin is not removed a bad taste is imparted to the fruit. They are kept for some time until an efflorescence of sugar appears on their surface, and are then pressed in masses of about 25 lbs. each and placed in boxes, or wrapped in dry banana leaves.

Epitome of Cattle Inspectors' Returns.

MARCH, 1909.

BULAWAYO.

With the exception of one truck of imported sheep affected with scab, no disease was reported.

GWELO.

African Coast Fever.

No sickness reported amongst the test cattle placed on the old infected area.

UMTALI.

African Coast Fever.

No fresh outbreaks. No cases of Coast Fever have occurred during the month.

Malarial Catarrhal Fever in Sheep.

Has shown itself more mildly during the present season of prevalence.

Horse Sickness

Two horses died. Six inoculated mules contracted the disease four of which died.

VICTORIA

Rabies.

Two cases amongst the coach mules on the Victoria Selukwe road.

Horse Sickness.

Four deaths.

ENKELDOORN.

Horse Sickness.

Five horses and three mules died and two horses and three mules reported having recovered.

SALISBURY.

Rabies.

One outbreak occurred.

All other districts no disease reported.

J. M. SINCLAIR,

Chief Veterinary Surgeon.

Weather Bureau.

AGRICULTURAL DEPARTMENT.

Summary of Rainfall for the months dated September 1st, 1908, to 31st March, 1909, at twenty-two Stations in Southern Rhodesia:

Name of Station.	March.	Total for 7 months ended March 31, 1909.
<i>Mashonaland :—</i>		
Chishawasha	2·62	41·30
Enkeldoorn	1·97	26·11
Gadzema (Giant Mine) ...	6·19	36·12
Hartley	6·47	37·78
Helvetia (S. Melsetter) ...	12·40	63·89
Inyanga	4·52	33·33
Marandellas	2·91	27·42
Mount Darwin	1·02	34·39
Penhalonga (Umtali) ...	5·80	45·01
Sinoia	1·31	30·07
Salisbury	1·71	36·44
Victoria	2·91	25·36
<i>Matabeleland :—</i>		
Bulawayo	7·93	32·14
Filabusi	4·60	28·05
Fort Rixon	3·12	18·76
Gwelo	3·22	27·49
Hope Fountain	4·31	29·51
Matopo Park	3·74	21·70
Nyamandhlovu	4·80	27·47
Shiloh	5·15	21·84
Tegwani	3·04	28·57
Victoria Falls	12·26	36·97

REMARKS.

Since reporting in this "Journal" on the rainfall recorded at various stations in Southern Rhodesia for the six months ended February, a considerable addition for the time of year has been made to the amount of rain registered to that date.

In the Summary published herewith it will be noticed that the returns of these few stations for March indicate

a heavier rainfall in Matabeleland generally than in Mashonaland. Melsetter is of course an exception as this part of the country is influenced by the coastal rains, as they are first caught here in their course from the Indian Ocean. The rainfall for the station at Helvetia in this district since 1st September, 1908, to 31st March, totals 63.89 inches.

During April very few stations record 2 inches, and many of them less than one.

The rains are, generally throughout the country, somewhat above the average.

Night temperatures for April have remained high. At most of the Thermometric Stations up to the end of April, the self registering minimum Thermometers in screen have not recorded any temperature below 40° fahr. generally being over 50° fahr. At Westacre a frost of 16° is reported on the last day of the month, doing considerable damage to the crops.

C. E. F. ALLEN,

Officer in Charge, Weather Bureau.

Correspondence.

BREAD MAKING.

By a Rhodesian Farmer's Wife.

TO THE EDITOR, "AGRICULTURAL JOURNAL."

DEAR SIR,—

As a Transvaal, and now a Rhodesian Farmer's wife, I know the difficulties of a young wife in preparing bread, and though many methods may be tried,—and all be good,—it is only practice which will make a good bread maker and baker.

I have made bread for 25 years, and tried many ways, and the following I find the best. Do not give up if the first or second trials are not successful;—

I. Making Yeast.—Take a heaped table-spoon of lightly packed hops, boil in a bottle of water till the hops sink, strain into a jug, add another bottle of cold water,

pour into two white glass bottles, filling up to neck, put into each bottle one tea-spoonful each of salt and of sugar, and two teaspoonfuls of flour.

II. Yeast fit for use.—When a slight beading appears on top round the edge of the glass, it is fit for use. In making the first time keep one bottle in a warm place, and put two or three raisins, or a mashed boiled potato in it to hasten the ferment, but do not use them on every occasion, for it causes the yeast to become acid in hot weather, and the bread unpleasantly sour.

When refilling the bottles wash them out, but keep two teaspoonfuls of the old yeast and put it into one of the bottles of the new to start the next lot.

III. How to make bread.—The night before baking take half a bottle of the yeast and half a cup of warm water, mix with flour to a batter, cover and keep warm.

Next morning take 7 lbs. of flour, or meal, two teaspoonfuls of salt, one teaspoonful of sugar, the yeast, and sufficient warm water to make into a nice firm dough, not too stiff. Cover with a clean cloth and place in a warm old blanket (kept for bread) for one or two hours according to the weather. As soon as it begins to rise get your pans greased, knead the dough, cut it into four, place it in the pans and allow it to rise from half an hour to an hour, till it begins to crack, then place in a nice hot oven, which must be allowed to get cooler after the bread is in. Many bread makers do not have the oven hot enough to *begin* with, but raise the heat *after the bread is in*, this is a mistake, and makes the crust thick and hard. In a good oven bake one hour.

Having six big sons and daughters as well as husband and self we find Inyouti Bread far nicer and more economic than all wheat bread.

Follow the instructions given for making yeast the night before baking as above. Next morning take a pot of boiling water, add ground Inyouti sifted or not (both are good) make a stiff porridge, put into kneading dish, add salt, a teaspoonful of sugar, one tablespoonful or more of dripping, butter, or cream, and let it get cool; next add the yeast and knead in sufficient flour, or No. I. meal to make a nice dough, divide into loaves, put into greased pans, cover, and leave to rise in a warm place, and bake.

The Inyouti bread is really very delicious and ought to be better known. I am famed (of course just amongst my immediate neighbours) for my Inyouti bread. So much money goes out of the country for Wheaten meal and flour, and Inyouti is very nutritious. I hope some day you will tell us the relative value of bread stuffs.

By a Farmer's Wife.

Yeast.—To six pints of water add two large potatoes in skins, cut up, one handful of hops, one small handful of coarse salt, and boil for one hour, and then strain. Mix into a thin paste four tablespoonfuls of sugar (cold water) add to the strained liquid and boil for one hour, stir occasionally to prevent burning. When cold, bottle and tie down corks. See that it is fermenting before making bread.

To make bread.—To five pounds of flour add one bottle of yeast and enough hot water to make into a stiff dough, knead well, the more the better. Stand it in a warm place all night, and in the morning make it up into loaves, let it stand until risen and bake. It rises quicker if covered with a blanket. This quantity makes three good sized loaves, if less required take half the quantity. I always put sugar in the flour when making.

By Another Farmer's Wife.

Yeast.—Put two handfuls of hops into three pints of cold water, boil gently for half an hour, strain, add to the liquid one and a half tablespoonfuls of sugar, and one dessertspoonful of salt, then take one and a quarter lbs. of flour, mix into a thick paste with cold water, then add the liquid, stir well to the thickness of gruel, when luke warm add a little old yeast, mix all together, put into a jug or jar, covered with a piece of muslin, and let it stand twenty four hours, then stir it up, and put into bottles and cork tightly.

To make white bread.—Make a sponge at night as follows:—Take six medium sized potatoes, boil and mash as smooth as possible, place in the bread pan, and add three pints of warm water, or milk, one tablespoonful of

salt, one half cupful of yeast, and enough flour to make a stiff batter, stir hard for eight or ten minutes, and set in a warm place over night; in the morning the sponge should be very light, mix as soon as possible, adding flour enough to prevent it sticking to the pan, knead thoroughly and let rise again, then mould into loaves, and place in the baking pans, let it rise again till twice the size, and put in a moderately hot oven to bake about one hour for small loaves, and one and a half hours for larger.

By "Old Rhodesian."

To about one gallon of boiling water add 2 oz. hops, half a pint sugar, and boil for about ten to fifteen minutes, let stand till cool, then mix two tablespoonfuls flour in cold water, add this and stir, then strain the whole and bottle, tie the corks down. The yeast will be ready for use on the third day. When making a fresh lot, put a bottle of old yeast in before straining, the yeast is usually fit for use on the following day. Hops can be bought in half pound or pound packets at most stores.

To make bread.—Half a whisky bottle of yeast (if good) is enough for from six to eight pounds of flour. Put the quantity of flour required in basin, making a hole in the centre, into this pour yeast, add sufficient warm water and salt, mix, but do not have the mixture too stiff, cover up, and keep in a warm place until the morning, then add sufficient flour to make the batch of proper stiffness, punch it well. If baked in tins, put in about a third of a tin, allow it to rise level, then bake in a hot oven for an hour.

If a woman is baking she will find that by allowing the batch to rise in the basin after the morning mixture, then mixing again slightly and placing in tins and allowing to rise, bread will be much better. It is rather a long business, and the batch must always be kept warm. A blanket put round the basin and placed near a fire or in the sun, is as good as anything.

(NOTE.—The Acting Editor is much indebted to the contributors of these receipts for bread-making for the trouble they have taken.)

Garden Calendar.

By N. L. KAYS-EDDIE.

THE FLOWER GARDEN.

JULY.—The cold weather disappears with this month. All plants must be carefully attended to and kept free of dead and dying wood. The soil should be well dug and manured, kept constantly stirred and as loose as possible. Where watering has to be resorted to, particular care must be taken not to allow the soil to cake. Seeds of most annuals if desired for early flowering may be sown in boxes, but these will require continual watering before the coming of the rainy season. The boxes should be placed in a warm place, sheltered from the wind; a good plan is to make a pit and cover the top with calico. Perennials, shrub and ornamental tree seeds may also be sown. Dahlia, canna and other Summer flowering bulbs, if not already done should be dug up and stored for division and re-planting while the soil is being prepared. Pruning of roses and shrubs should be completed this month, and cuttings planted.

AUGUST.—This is a busy month, and the soil should be kept in good tilth. Roses, shrubs and ornamental trees may be planted. All seeds may now be sown. Marguerite Carnations sown now will flower by the end of the year. Cutting of carnations and other perennials should be planted either in the open ground or in boxes, using poor but loose soil for the latter, taking care that they are well drained, or the success will be small.

Carnations.—No garden should be without this very popular and beautiful flower, which, especially the Marguerite varieties, flourish well in Rhodesia, the latter will with attention flower throughout the year. They are easily raised from seed or cuttings and grow in almost any situation. Constant picking not allowing seed to form adds to its life and vigour.

Dahlias.—The bulbs should be broken up and re-planted. Care should be exercised in this operation which is a difficult one. Each bulb to grow must have an eye which is situated on the crown of the old stem, part of which must be cut away with each bulb, and the thin neck of the bulb should in no way be damaged. The

Dahlia requires only a poor but deep soil and should never be heavily manured or the plant will run to wood. The Cactus varieties do exceedingly well in this country.

All plants in tins or pots requiring repotting should now be attended to. A good compost can be made of sand, ordinary garden soil and leaf mould in equal parts. Rotten chips from underneath the wood stack will do instead of leaf mould.

THE KITCHEN GARDEN.

JULY.—The garden should by this be well trenched and manured, the soil being well worked and loose.

Beet, radish, carrot, parsnip, turnip, onion, leek, mustard, cress and tomatoes may be planted.

Potatoes may be planted by those being fortunate enough to have sufficient water.

AUGUST.—All vegetable seeds may now be planted. Those having but a limited supply of water would be wise to sow in boxes transplanting when large enough. The seed beds require careful preparation, they should be well raked up and laid out in long narrow rows in order to facilitate watering. The tops of the beds should be levelled as near as possible and when sown covered over with a thin layer of straw or grass which will prevent the seeds being washed out when watering and the soil from caking.

Market Reports.

London market reports indicate a good supply of Maize from The Plate River, America, and Odessa. South African, White Choice, Maize has sold at 27s. per 480 lbs.

Natal has started taking orders for home markets. During last year over 28,000 tons of Maize were shipped from there to England and the Continent.

West African Maize has found very good prices but there is not a very large business done.

South African Oats have sold to some small extent on the home markets but the prices are said to be too high to compare favourably with the Argentine and home grown oats.

Grain crops are reported good in Russia, The Plate River and America, and markets are likely to be well supplied this year. During April wheat has advanced considerably, and this has had a steadying effect on oats and maize. Hay is selling at from 63s. to 79s. per ton.

Salisbury Market prices of produce supplied by Messrs. Wightman and Co., Ltd.:—

Mealies, per bag of 203 lbs.	12/- to 13/-	Potatoes, per lb. ...	1½d. to 2d.
Rapoko, " "	13/- " 15/-	Onions, per lb. ...	2½d. " 3d.
Oats, " "	28/6 " 30/-	Manna, per bale ...	6/- " 7/-
Oat Forage, per bale ...	9/- " 10/-	Beans, per bag ...	28/6 " 30/-
Munga, per bag of 203 lbs.	16/- " 17/-	Ground Nuts, per bag ...	9/- " 10/6

Salisbury Market prices of Stock supplied by Messrs. Whitfield and Co.:—

Owing to the closing down of roads prices of cattle have dropped considerably.

Native Cows, each ...	£7	Mules, each ...	£25
Native Heifers, " ...	£6	Horses, " ...	£25 to £30
Slaughter Oxen, per 100 lbs. ...	40/-	Donkeys, " ...	£7 " £9
" Sheep (Colonial), each ...	27/-		

James Lawrence and Co., Kimberley:—

Bran, per bag 100 lbs. ...	7/9 to 8/3	Boer Meal (Col.) sifted	
Barley, " 163 " ...	8/6 " 12/-	mixed ...	30/6 to 32/6
Beans, Sugar, bag 203 lbs.	32/6 " 37/6	Flour (Col.) per bag 100 lbs.	16/9 " 17/6
Beans, Kafir, 203 lbs. ...	none.	Yellow Mealies (Col.) 203 lbs.	9/- " 10/-
Chaff (Colonial) bale ...	4/6 to 9/6	White Mealies (Col.) hard	
Chaff " pressed, 100		203 lbs. ...	9/- " 10/-
lbs. ...	3/- " 4/-	White Mealie Meal, 183	
Forage, per 100 lbs. (good)	5/6 " 5/9	lbs. ...	10/6 " 13/6
Forage, " " (inferior)	4/6 " 5/-	Oats, per bag 150 lbs. ...	9/6 " 10/6
Kafir Corn, S.A. mixed ...	9/- " 10/-	Lucerne Hay, per 100 lbs.	4/6 " 5/3
Kafir Corn, White ...	9/- " 10/-	Onions, per bag 120 lbs....	9/6 " 12/6
Boer Meal (Col.) unsifted		Potatoes, per bag 163 lbs.	8/- " 12/-
mixed ...	28/- " 28/6	Potatoes (local) ...	10/- " 13/6

Hubert Morisse and Co., Johannesburg:—

WEEKLY MARKET PRICES.

Barley, per 163 lbs. ...	8/- to 12/6	Hay, Sweet (Transvaal)	9d. to 1/-
Bran, 100 lbs. (Col.) ...	8/9 " 9/-	Lucerne, per 100 lbs. ...	5/6 " 7/-
Chaff, best, 100 lbs. ...	2/9 " 4/3	Manna ...	3/- " 4/3
Eggs, per doz. (Col.) ...	1/6 " 1/9	Transvaal Hay ...	8d. " 1/-
Salt, per bag ...	4/9 " 5/6	Oats, per 153 lbs....	5/6 " 12/6
Forage (Transvaal) ...	6/9 " 7/6	Potatoes, best. per 153 lbs.	15/- " 18/6
" (Col.), best, per		" medium and inferior	10/6 " 14/6
100 lbs. ...	6/9 " 7/6	Onions (Cape) 120 lbs. ...	9/- " 12/-
Forage, med. and inferior,		Turkeys (Cocks) ...	3/6 " 11/6
per 100 lbs. ...	3/- " 6/-	" (Hens) ...	2/10 " 3/6
S. Meal, best fine ...	28/6 " 30/-	Fowls ...	1/3 " 3/6
Rye ...	15/9 " 16/6	Ducks ...	1/9 " 2/9
Wheat ...	17/6 " 22/-	Geese ...	4/6 " 5/3
Mealies (Hickory King		Pigeons ...	11d. " 1/1
Whites) ...	10/4 " 10/9	Butter (O.R.C.) ...	9d. " 1½
Mealies (O.R.C. Whites)	10/- " 10/3	Pumpkins, each ...	1d. " 6d
" (Yellow) ...	10/2 " 10/7	Beans, per 200 lbs. (Sound)	15/6 " 40
Kafir Corn, per 203 lbs....	9/- " 11/-		

SOUTH AFRICAN STUD BOOK.

A RECORD of all classes of Stock, the object being to encourage the breeding of Thoroughbred Stock and to maintain the purity of breeds, thus enhancing their value to the individual owner and to the country generally.

Applications for Membership and entries of Stock should be addressed :

For Cape Colony to—

A. A. PERSSE, P.O. Box 703, CAPE TOWN.

For Transvaal to—

F. T. NICHOLSON, P.O. Box 134, PRETORIA.

For Orange River Colony—

E. J. MACMILLAN, GOVERNMENT BUILDINGS,
BLOEMFONTEIN.

A. A. PERSSE,

Secretary South African

Stud Book Association.

Government Notices.

No. 188 of 1906.

26th July, 1906.

AFRICAN COAST FEVER.

UNDER and by virtue of the powers vested in me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel and withdraw the regulations promulgated by Government Notices Nos. 264 of 1905 and 164 of 1906 and declare the following to be of full force and effect in lieu thereof within the Province of Matabeleland, exclusive of the District of Gwelo as described and defined by section 4 (c) of the "Southern Rhodesia Boundary Regulations Amendment Regulations, 1898," which area is hereby declared to be an area infected with a destructive disease and is hereinafter called the said area.

1. No cattle shall be moved from any other part of the Territory of Southern Rhodesia into the said area.

2. The movement of cattle to, from or across any defined area appearing in the schedule hereto or any area which may hereafter be added to that schedule so long as such area remains in and is not withdrawn from the schedule is absolutely prohibited save and except as is provided for in sections 3, 6 and 7 of these regulations.

3. The movement of all cattle within the said area is prohibited save and except

- (a) On permission granted by an Officer specially authorised thereto by the Administrator.
- (b) Within the boundaries of any single farm where such cattle are depastured.
- (c) Within an area of land enclosed by a substantial fence.
- (d) Within a radius of four miles of any native kraal situate within the boundaries of any Native Location or Reserve, and as is hereinafter further provided.

4. The movement of cattle for slaughter, *bona fide* farming, mining or breeding purposes or for private milk supplies shall be permitted under the written authority of an official thereto duly authorised subject to the following terms and conditions:

- (a) That cattle are moved to the nearest or most suitable railway station or siding, and thence by rail to their destination, or, where the district is not served by a railway by the most suitable route to their destination, all cattle travelling by road shall be under the personal supervision of a responsible white man approved of by the Cattle Inspector or of a native approved of by the Native Commissioner and the Cattle Inspector of the district within which the movement takes place.
- (b) That written permission of owners, occupiers or managers of all occupied land, and in the case of Native Reserves, of the Native Commissioner of the District over which such cattle shall pass to the nearest station, siding or destination is obtained; provided that in the event of such owners, occupiers, managers or Native Commissioner refusing to grant such permission, the Controller of Stock may direct the issue of a permit of removal, if satisfied that the necessary permission is withheld without good and sufficient cause.
- (c) That such cattle shall before being moved, be thoroughly disinfected by dipping or by spraying to the satisfaction of the Officer issuing permit, and at the expense of the owner of such stock, and if intended for slaughter shall where possible be branded under the supervision of the Officer issuing permit with the letters "V.D." on the near side of neck.

- (d) That cattle intended for slaughter shall, on arrival at destination subject to the terms of clause (e) hereof, be immediately taken to the prescribed quarantined area and there be quarantined and confined, and where not branded in terms of clause (c) hereof, be similarly branded under the supervision of a duly authorised officer.
- (e) That all cattle intended for slaughter brought to their destination and not disinfected by dipping or spraying in terms of clause (c) hereof shall be immediately taken to the public dipping station and there be thoroughly dipped or sprayed before being taken to the quarantine area.
- (f) That all cattle admitted to the quarantine area shall be slaughtered within twenty-one days of their admission, and under no pretext whatever shall cattle so admitted be permitted to leave the said area alive; all such cattle shall after admission to the said area be considered as likely to be infected with disease and if found wandering outside the said area or in possession of any person may be destroyed under an order of the Chief Inspector or Controller of Stock.
- (g) That on arrival at destination cattle other than slaughter cattle shall be dipped or sprayed and shall be effectually isolated from all other cattle on the same land for a period of four weeks.

5. The movement of working cattle may be permitted under the following conditions only :—

- (a) Within a radius of six miles of any working mine or mine in course of development for the purposes of such mine, provided that such cattle shall only be moved under a permit of a duly authorised officer, and shall be dipped every fourteen days or where no dipping tank is available be thoroughly sprayed with an approved dip, provided further that such permission shall not be granted when it conflicts with any other section of these regulations, or if such movement is considered dangerous to other cattle within the six mile radius.

Sub-section (b) cancelled by Government Notice No. 216 of 1907.

6. In the event of the failure of pasturage or water on land on which cattle are located, the movement of such cattle will be permitted, provided :—

- (a) That such movement shall be to nearest available pasturage by the most suitable route.
- (b) That written consent be obtained in terms of Section 4 (b) hereof.
- (c) That movement shall be by permit only of a duly authorised officer, and under the supervision of a responsible white man, or of a native approved of by the Cattle Inspector and Native Commissioner of the district.

7. For the purposes of cleansing an area from disease the Controller of Stock may, on the authority of the Administrator and on the advice of the Chief Inspector of Cattle, and subject to such conditions as may be stipulated, permit the removal of cattle from a scheduled area to an adjacent clean area.

8. All applications for the removal of cattle under sections 4 and 5 hereof shall be submitted to and approved of by the Veterinary Department before being granted and when such movement is from one Native District to another the application shall be submitted for the approval of the Government Veterinary Surgeon at Bulawayo and the Native Commissioners of the Districts to and from which the removal is made.

Section 9 cancelled by Government Notice No. 114 of 1908.

10. All veld-fed animals within the limits of the various Commonages or Townlands or other centres where there is common grazing ground, and wherein cases of African Coast Fever have occurred within two years of the date of publication hereof, and upon which public dipping tanks have been established, shall be dipped therein at least once every fourteen days: provided that the Controller of Stock may, on the advice of the Veterinary Department, direct the temporary suspension of this regulation for such reasons as he may regard as sufficient.

11. The following charges shall be paid at the time of dipping by the owner of the cattle or other animals required to be dipped under these Regulations in respect of any dipping done at a public dipping tank :—

For cattle (over six months)	..	..	3d. per head.
For horses and mules	..	..	3d. „
For calves (six months and under)	..	..	2d. „
For small stock	..	..	$\frac{1}{2}$ d. „

with a minimum charge of 6d. for any number of animals not aggregating such fee under above tariff.

12. Any disinfecting by spraying required to be done under these regulations shall be carried out with an approved insecticide by the owner of the animals so sprayed ; provided that the Inspector may, at his discretion, carry out such disinfection with the assistance of and at the entire cost of the owners of the animals to be sprayed, the cost of such disinfection being payable at the time of the spraying.

13. Whenever the owner, occupier, or manager of a farm shall adopt measures for the cleansing of his cattle running thereon, either by spraying or dipping or by any other method permitted by these or any other regulations, the Cattle Inspector may order such natives or others as have cattle on the said farm to cleanse such cattle, and the Native Commissioner of the District in which such farm is situated may enter into an arrangement with the native owners of cattle to cleanse such cattle at a charge to be mutually agreed between the said owner, occupier, or manager and the said native owners.

14. Any person contravening any of the provisions of these regulations shall, upon conviction, be liable in respect of each offence to the fines and punishments prescribed by the Ordinance, and in cases where no special punishment is provided, to a fine not exceeding £20, or in default of payment to imprisonment with or without hard labour for any period not exceeding three months, unless the penalty be sooner paid.

SCHEDULE.

- (1) Fingo Location.
- (2) An area within a radius of ten miles of Ntolas Kraal on the farm Emangeni.
- (3) An area comprising the farms Upper and Lower Umvutcha, Reigate, Upper Nondwene, Mapane, Government Farm No. 5, Trenance and the plots adjoining the farms Umvutcha.

No. 216 of 1907.

Department of Agriculture,

Administrator's Office,

Salisbury, 10th October, 1907.

AFRICAN COAST FEVER.

UNDER and by virtue of the powers vested in me by the " Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel and withdraw Sub section (b), Section 5 of Government Notice No. 188 of 1906, and declare the following to be of full force and effect in lieu thereof :—

Within the said area from private farms and trading stations to any centre of consumption, or to a railway station or siding, or to and from any other farm, or from a mine to a railway station or siding for the purpose of transporting fuel or mining timber, under the permit of a duly authorised officer, which permit shall fully set forth the route to be traversed ; provided that no permit shall be issued until the person applying for the same shall produce the written consent of the owners, occupiers, or managers of occupied lands proposed to

be traversed, and, in the case of native reserves, of the Native Commissioners, and that such cattle shall before being moved be thoroughly disinfected by dipping or spraying at the expense of the owner, and to the satisfaction of the officer issuing the permit; provided further that, in the event of such consent being unreasonably withheld, the Controller of Stock may direct the issue of a permit.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 217 of 1907.

Department of Agriculture,
Administrator's Office,
Salisbury, 10th October, 1907.

AFRICAN COAST FEVER.

UNDER and by virtue of the powers vested in me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel and withdraw as from the 1st October, 1907, the regulations promulgated by Government Notices No. 189 of 1906 and No. 185 of 1907, and declare that the following shall be of full force and effect in lieu thereof from that date within the province of Mashonaland and the fiscal division of Gwelo, as defined by the "Southern Rhodesia Boundary Regulations Amendment Regulations, 1898," which areas are hereby declared to be areas infected with a destructive disease:—

1. The movement of all cattle within the said area is prohibited save and except:—

- (a) On permission granted by an officer specially authorised thereto by the Administrator.
- (b) Within the boundaries of any single farm where such cattle are depastured.
- (c) Within any area of land enclosed by a substantial fence.
- (d) Within the boundaries of the various commonages, town lands, or grazing ground common to any mining camp.
- (e) Within a radius of four miles of any native kraal situate within the boundaries of any native location or reserve, the site of such kraal shall be deemed to be the place where it is situated at the date of publication hereof, and as is further provided.

2. The movement of cattle for slaughter purposes shall be permitted under the written authority of an officer thereto duly authorised, subject to the following terms and conditions:—

- (a) That such cattle are moved by the most suitable route to the centre of consumption. All cattle travelling by road to be under the personal supervision of a responsible white man, or native approved of by the Cattle Inspector.
- (b) That before cattle may enter from a native district not included in any particular group of districts as defined in Section 6 (b) the written permission of owners, occupiers, or managers of all occupied land, and, in the case of native reserves, of the Native Commissioner of the district over which such cattle shall pass to the nearest station, siding, or centre of consumption is obtained; provided that in the event of such owners, occupiers, managers, or Native Commissioners refusing to grant such permission, the Controller of Stock may direct the issue of a permit of removal if satisfied that the necessary permission is withheld without good and sufficient cause.

- (c) That such cattle shall, on arrival at the centre of consumption, subject to the terms of clause (d) hereof, be immediately taken to the prescribed quarantine area, and there be quarantined and confined, and branded with the letters "V.D." on the near side of the neck under the supervision of a duly authorised officer.
 - (d) That all cattle brought into any centre of consumption shall be disinfected by dipping or spraying at the public dipping station before being taken to the quarantine area.
 - (e) That all cattle admitted to the quarantine area shall be slaughtered within 21 days of their admission, and only be permitted to leave the area for the purpose of being driven to the abattoir for slaughter. All such cattle shall, after admission to the said area, be considered as likely to be infected with disease, and, if found wandering outside the said area or in possession of any person, may be destroyed under an order of the Chief Inspector or Controller of Stock.
 - (f) That intermediate depots, or concentration camps, for slaughter stock may be allowed at centres approved of by the Chief Inspector of Cattle, provided that no such camp shall be situated within less than a radius of five miles of any commonage, town lands, or grazing ground common to any mining camp, railway station or siding.
3. The movement of cattle required for *bona fide* mining, farming, breeding and dairying purposes and for private milk supplies may be permitted on the written authority of a duly authorised officer, subject to the following terms and conditions :—
- (a) That such movement shall take place subject to the conditions set forth in Section 2 (a) and (b).
 - (b) That whenever such cattle shall at any place along the route have passed within a radius of less than five miles of an infected area, the cattle shall upon arrival at their destination be effectually isolated from all other cattle on the same land for a period of four weeks.
 - (c) That whenever the cattle being removed shall at any portion of the route have passed within native districts where infected areas exist, the consent in writing to such movement be obtained from all owners of cattle on farms adjoining that to which movement takes place ; and in the case of native reserves of the Native Commissioners of the districts ; provided that should such consent be unreasonably withheld by any of the aforesaid persons the Controller of Stock may direct the issue of a permit.
 - (d) That such cattle required for breeding and dairying purposes, or for private milk supplies, when moved to within the boundaries of the various commonages, town lands, or of grazing ground common to any mining camp or other centre where cases of African Coast Fever have occurred within 15 months, shall be confined in some enclosed place approved of by the local Cattle Inspector, and, if a case of African Coast Fever occur in such enclosure, shall not be liberated therefrom except in terms of Section 5 hereof, until 15 months after the last occurrence of African Coast Fever within the enclosure in which they are kept, nor shall they be allowed, after liberation, to run upon any of the land specified herein, unless such land has been free from African Coast Fever for a period of 15 months.
 - (e) All cattle introduced in terms of the preceding sub-section (d) shall, on arrival, be taken direct to the Government dipping station and there be dipped or sprayed.
 - (f) All cattle confined in terms of clause (d), and all calves born within the said enclosures, shall be sprayed every 14 days, as may be directed by the Cattle Inspector.
 - (g) No cattle shall be moved from one native district to another unless with the permission of the local Veterinary Officer and the Cattle Inspectors of the districts to and from which such movement takes place.

4. All calves having less than two permanent teeth running within the boundaries of the various commonages, town lands, or grazing ground common to any mining camp or other centres where cases of African Coast Fever have occurred within 15 months of the date of these Regulations, or born thereon after such date, shall be removed to some enclosed place approved of by the local Cattle Inspector, and shall not be liberated or allowed to run at large on such commonage, town lands or common grazing ground until 15 months after the occurrence of the last case of African Coast Fever within the enclosure in which they are confined, or upon such commonage, town lands or common grazing ground.

- (a) No calves shall be permitted to accompany working cattle travelling along the roads mentioned in Section 7, sub-section (c), and all calves born of such working cattle whilst travelling shall not be removed from the place where born.

5. For the purpose of cleansing an area of disease the Controller of Stock may, under the authority of the Administrator and on the advice of the Chief Inspector of Cattle, subject to such conditions as may be stipulated, permit the removal of calves and other cattle to an adjacent clean area.

6. The movement of working cattle other than those specified in Section 7 hereof may be permitted within the following areas and on the terms and conditions hereinafter set forth :—

- (a) Within a maximum radius of 15 miles of any working mine, or mine in course of development, for the purposes of such mine, provided that :—

- (1) Such cattle shall only be moved under permission of a duly authorised Officer, and shall be dipped every 14 days where a dipping tank is available within such area, or, in the absence of a dipping tank, be thoroughly sprayed with an insecticide.
- (2) Such permission shall not be granted where it conflicts with any other section of these regulations, or if such movement is considered to be dangerous to other cattle within the 15 mile radius.

- (b) Within the boundaries of the Gwelo and Lomagundi Native Districts, and within and between the boundaries of the following adjoining Native Districts : (1) Salisbury, North and South Mazoe ; (2) Hartley, Charter and Chilimanzi ; (3) M'tokos, M'rewas, Marandellas and Makoni ; (4) Inyanga, Makoni and Umtali (as defined by Government Notice No. 13 of 1899) ; (5) Along the road West of the Sabi River from Odzi Bridge to Makondo Copper Mine, subject to the following conditions :

- (1) That the movement will be permitted for such period as the Controller of Stock may in his discretion, and on the advice of the Chief Inspector of Cattle, deem expedient, provided that such permission may at any time be withheld or withdrawn without notice.
- (2) That all applications for removal shall be approved of by the Cattle Inspectors of the districts through which the cattle pass.
- (3) Provided that in the event of such Cattle Inspectors refusing to grant permits for the removal of cattle, the Chief Inspector may, on the advice of the local Veterinary Officer, direct the issue, if satisfied that the necessary permission is withheld without good and sufficient cause.
- (4) That all such cattle are dipped every 14 days where a tank is available, or, in the absence of a tank, are thoroughly disinfected by spraying.

7. The movement of "salted" or immune working cattle shall be permitted on the following terms and conditions :—

- (a) That such cattle have been registered and branded under the supervision of the Cattle Inspector with the brand "T.O." on near shoulder and the registration number on near horn, in terms of Section 7, clauses (a) and (b) of Government Notice No. 109 of 1905.

(b) That the movement of such cattle shall only take place under the written permit of a duly authorised officer and subject to the conditions that they are disinfected by dipping every 14 days, where a dipping tank is available, or, in the absence of a dipping tank, by thorough spraying with an insecticide.

(c) That movement of such cattle only shall be permitted :—

- (1) Along the main roads of the Melsetter District.
- (2) From Umtali to the Makondo Copper Fields.
- (3) From Melsetter to Umtali.

8. In the event of failure of pasturage or water on land on which cattle are located the movement of such cattle will be permitted, provided :

- (a) That such movement shall be to the nearest available pasturage by the most suitable route.
- (b) That written consent be obtained in terms of Section 2, clause (b) hereof.
- (c) That such movement shall be by permit only of a duly authorised officer and under the supervision of a responsible white man, or of a native approved of by the Cattle Inspector of the district.

9. All applications for the removal of cattle under Sections 2, 3 and 8 hereof shall be submitted to, and approved of by, the local Veterinary Officer before being granted.

10. All permits granted under the provisions of these Regulations shall specify the number and brands of cattle, route to be travelled and period allowed, and may define places of outspan, and all other conditions endorsed on such permits by the officer issuing the same shall be strictly observed.

11. All veldt-fed animals within the limits of the various commonages or town lands, or other centre where there is common grazing ground within the districts of Umtali and Melsetter and the scheduled area at Selukwe, upon which public dipping tanks have been established, shall be dipped therein at least once every 14 days ; provided that the Controller of Stock may, on the advice of the Veterinary Department, direct the temporary suspension of this regulation for such reasons as he may regard as sufficient.

12. The following charges shall be paid at the time of dipping by the owner of the cattle or other animals required to be dipped under these regulations in respect of any dipping done at a public dipping tank :—

For Horned Cattle (six months old and over)	..	3d. per head.
For Horses and Mules	.. .. .	3d. „
For Calves (under six months) and Donkeys	..	2d. „
For Small Stock	.. .. .	½d. „

with a minimum charge of 6d. for any number of animals not aggregating such fee under the above tariff.

13. Any disinfecting by spraying required to be done under these regulations shall be carried out with an approved insecticide by the owner of the animals so sprayed : provided that the Inspector may at his discretion carry out such disinfection with the assistance of and at the entire cost of the owner of the animals sprayed, the cost of such disinfecting being payable at the time of spraying.

14. Whenever the owner, occupier, or manager of a farm shall adopt means for cleansing his cattle running thereon, either by spraying or dipping or any other method permitted by these or any other regulations, the Cattle Inspector may order such natives or others as have cattle on the same farm to cleanse such cattle or any others before permitting them to enter or pass over such an area, and the Native Commissioner of the district in which such farm is situated may enter into an arrangement with the native owners of cattle, to cleanse such cattle at a charge to be mutually agreed upon between the said owner, occupier or manager and the said native owners.

15. Any person contravening the provisions of these regulations shall be liable to the punishments prescribed by the Ordinance, and in cases where no special punishment is prescribed by the said Ordinance to a fine not exceeding £20, or to a period not exceeding three months' imprisonment with or without hard labour in default of payment of any fine inflicted.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 66 of 1907.

Department of Agriculture,
Administrator's Office,
Salisbury, 28th March, 1907.

AFRICAN COAST FEVER.

NOTWITHSTANDING anything to the contrary by regulation provided, I, under and by virtue of the powers vested in me by the "Animals Diseases Consolidation Ordinance, 1904," hereby provide as follows:—

No cattle shall be allowed to be at large, or moved about for the purposes of work, or other cause, within the area defined hereunder, unless an Inspector shall be satisfied that the said cattle are immune from the disease known as African Coast Fever, and shall have caused such cattle to be branded with the letters "T O" on the near shoulder.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

P. D. L. FYNN,
Acting Treasurer.

AREA.

From a point on the Tebekwe River one and a half miles North East of the Wanderer Mine in a straight line to the Wanderer Dam, thence in a straight line to the Sebanga Poort, thence along the top of the Eastern slope of the Poort Hills to a point half a mile west of the Paf Mine, thence to the Lundi River in a straight line, thence in a straight line East to the Victoria Road Drift on the Tebekwe River, and thence up the River to the first named point, situate in the Native District of Selukwe.

No. 114 of 1908.

Department of Agriculture,
Administrator's Office,
Salisbury, 16th April, 1908.

AFRICAN COAST FEVER.

UNDER and by virtue of the powers vested in me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel and withdraw section 9 of Government Notice No. 217 of 1907, and declare the following to be of full force and effect in lieu thereof:—

Notwithstanding anything to the contrary elsewhere provided, all applications for the removal of cattle under sections 2, 6 and 8 of the Regulations published under Government Notice No. 217 of 1907 shall be submitted to, and approved of, by the local Government Veterinary Surgeon or Cattle Inspector before being granted, except in the native districts of Lomagundi, North and South Mazoe, Mrewas, Marondellas,

Makoni, Inyanga, Salisbury, Hartley, Charter, and Chilimanzi, within which districts officers duly authorised to issue permits may authorise such removal without submitting the aforesaid applications to, and obtaining the approval of, the local Veterinary Officer.

W. H. MILTON,
Administrator

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer

Provisions extended to Native District of M'danga by Government Notice No. 170 of 1908.

No. 123 of 1908.

Administrator's Office,
Salisbury, 23rd April, 1908.

BRANDS.

UNDER and by virtue of the powers conferred on me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby provide as follows:—

1. For the purposes of the more effectual control and supervision of cattle in any infected area the Controller of Stock may direct the branding of any such cattle with a special brand by him selected.

2. Any person who shall refuse or neglect to afford all reasonable facilities for branding cattle as aforesaid shall be liable to a fine not exceeding twenty pounds, and in default of payment to imprisonment with or without hard labour for a period not exceeding three months.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council,

F. J. NEWTON,
Treasurer.

No. 295 of 1908.

Department of Agriculture,
Administrator's Office,
Salisbury, 1st October, 1908

IMPORTATION OF STOCK.

UNDER and by virtue of the powers vested in me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel Government Notice No. 8, of the 19th day of January, 1905, and so much of any other regulations as may be repugnant to or inconsistent with the subjoined regulations, which are hereby declared to be of full force and effect.

1. The importation of the following animals from the respective countries enumerated is prohibited, owing to the existence or supposed existence of destructive diseases affecting the said animals in the said countries:—

- (1) All animals from the island of Mauritius.
- (2) All animals from German South-West Africa, and all animals except donkeys from German East Africa

- (3) Pigs from the colonies of the Cape of Good Hope, Transvaal, and the Orange River Colony, the Bechuanaland Protectorate, the Tati Concession, and other countries in which swine fever exists, subject, however, to the exceptions contained in the proviso to this section.
- (4) Dogs from the territories of North-Eastern and North-Western Rhodesia and Portuguese East Africa; provided, however, that dogs from countries from which importation is permitted may be introduced through the port of Beira and brought direct into this Territory.
- (5) Sheep and goats from (a) the districts of Albany, Alexandria, Bathurst Bedford, East London Fort Beaufort, Humansdorp, Jansenville, Kingwilliamstown, Komgha, Peddie, Somerset East, Stockenström Uitenhage, and Victoria East, in the Cape Colony; (b) the districts of Barberton, Lydenburg, Marico, Pretoria, Rustenburg, Waterburg, and Zoutpansberg, in the Transvaal; (c) Swaziland; (d) Portuguese Territory; (e) places north of the Zambesi River.

Provided, however, that the Controller of Stock may at his discretion permit the importation of pigs under six months of age for breeding purposes from the places mentioned in sub-section (3), and sheep and goats from the places mentioned in sub-section (5) hereof, on production of a certificate of a duly authorised Government veterinary officer that such animals are free from disease, have not been in contact with diseased animals, and have not come from an area where destructive disease has existed for twelve months previously.

2 The importation of organic manures, except guano, is strictly prohibited, and the importation of bone meal and bones required for fertilising or feeding purposes will only be permitted when accompanied by the certificate of a responsible and competent person that they have been thoroughly disinfected by treatment by superheated steam or other approved method. Any such manures, bone meal or bones introduced into Southern Rhodesia contrary to this regulation shall be liable to immediate destruction.

3. The areas set out in Schedule "A," and such further areas as may be added to the said schedule, shall be used in connection with pasture lands of the places to which they relate for the quarantining of animals suffering from any destructive disease other than glanders, epizootic lymphangitis or African Coast Fever.

4. The appointment of the areas set out in Schedule "B" hereto for the depasturing and quarantining of animals for slaughter in connection with the places therein mentioned is confirmed.

5. The several districts of Southern Rhodesia are hereby declared to be an area infected with scab amongst sheep and goats and the movement of all sheep and goats from any farm to beyond the limits thereof, or from their usual grazing ground within the limits of any town lands or native reserves to any other place, is prohibited, except under the written permit of an Inspector or Sub-Inspector. Such permit shall set forth the number and description of animals to be moved, the route they shall travel and the period for which the permit shall be in force. In cases where it may appear necessary or desirable the person to whom any such permit is issued may be required to cause the animals referred to therein to be dipped before being moved.

6. The introduction of sheep and goats against which no prohibition exists may be permitted by rail, subject to the following provisions:—

- (1) Plumtree shall be regarded as the port of entry.
- (2) All animals shall be accompanied by a certificate in the form set out in Schedule "C" hereto; provided, however, the Controller of Stock may allow the introduction of well-bred sheep or goats intended for sale or stud purposes without being previously dipped.
- (3) All animals shall be thoroughly dipped at their owners' expense within sixteen days after their arrival; provided, however, that animals intended for immediate slaughter shall be exempt from dipping if marked with a distinctive brand on the back.

7. The introduction of sheep and goats against which no prohibition exists may be permitted by road, subject to the following provisions :—

- (1) M'Lala Drift and Fort Tuli shall be regarded as ports of entry.
- (2) All animals shall be accompanied by a certificate in the form set out in Schedule " C " hereto.
- (3) All animals shall be thoroughly dipped at their owners' expense within sixteen days after their arrival.

8. The owner or person in charge of any horse, mule or donkey entering Southern Rhodesia by rail shall immediately report such arrival to the Veterinary Office at Salisbury, Bulawayo and Umtali respectively, and no such animal shall be detained at any intermediate station without the written authority of a Government Veterinary Surgeon.

9. The owner or person in charge of any horse, mule or donkey entering Southern Rhodesia by road shall immediately report such arrival at the police camp nearest to the place where such entry is made, and the officer in charge of such police camp shall immediately report to the Veterinary Department, which shall direct what steps are to be taken to test such animals with mallein, as in the following clause provided.

10. All horses, mules and donkeys upon entering Southern Rhodesia shall be tested with mallein, and the owner or person in charge of such animals shall, in all respects, carry out the lawful directions of the Inspector while such animals are being tested ; provided that this regulation shall not apply to animals in transit by railway through Southern Rhodesia and which are not detained *en route*.

11. The Inspector may direct the detention of any animal, and its isolation for the purposes of such examinations and tests as may be deemed expedient during which period of isolation or detention it shall be maintained and tended at the expense of the owner. If in the case of any such animal a second injection of mallein, applied at an interval of not less than ten days, is followed by a reaction indicative of the existence of glanders, such animal shall be forthwith destroyed.

12. Horses, mules and donkeys lawfully in this Territory, and required for purposes necessitating frequent crossing of the border to and from Portuguese East Africa, may be allowed so to cross on such terms as to registration, branding, testing and other conditions as the Chief Veterinary Surgeon may from time to time deem expedient to prescribe.

13. All horses, mules and donkeys depastured on the town lands of Melsetter and Umtali or on any public outspan adjoining such lands, and within the following area known as the Penhalonga, Imbesa and Samba Valleys, as bounded by the Umtali Waterfall Range on the north, the divide following beacons 18, 24 and 27 on the east, the Christmas Pass Range on the south, and the Palmyran Range on the west, in the district of Umtali, shall be dipped every fourteen days, by or at the expense of the owner or person in charge of such animals, unless the local Veterinary Officer shall see fit to dispense with such dipping

14. An Inspector may direct the thorough cleansing and disinfecting of trucks which may be reasonably suspected of being sources of infection of any destructive disease, and may direct the destruction of *truck fittings*, fodder, excreta or other matter or thing which may be reasonably calculated to convey such infection.

15. Any person contravening the provisions of these regulations, or the instructions or directions given in terms of these regulations, shall be liable in respect of each offence to a penalty not exceeding twenty pounds, or in default of payment to imprisonment with or without hard labour for a period not exceeding three months, unless where more or heavier penalties have by the aforesaid Ordinance, or by other regulations framed thereunder, been expressly provided.†

W. H. MILTON,

Administrator.

By command of His Honour the Administrator

F. J. NEWTON,

Treasurer.

SCHEDULE "A."

Areas on or near pasture land used in connection with townships set apart for the quarantining of animals suffering from any destructive disease other than glanders, epizootic lymphangitis or African Coast Fever :—

1. For the township of Salisbury and its neighbourhood, the Government Farm Makabusi, as defined in Government Notice No. 13 of 1898, namely, about six miles from Salisbury on the Old Charter Road, and bounded on the north, north-east and west by the farm "Willowdale," and on the south and south-east by the Makabusi River.

2. For the township of Umtali, a triangular piece of land situate to the north-east of the township, being that portion of the farm "Birkley" which falls in British territory.

3. For the township of Melsetter, a piece of land included within those lines bounding the pasture lands laid out around the township, which are in common with the outspan in the west, Sawerombi on the north, and Westfield on the north-east, bounded further on the south by a line drawn from the common beacon of Westfield and Lindley to the common beacon of Fairfield and outspan.

4. For the township of Enkeldoorn, a piece of land about $2\frac{1}{2}$ miles due west of the township and bounded as follows : From a point about 400 yards above the junction of a stream running south of Enkeldoorn township with streams running west from the Police Camp ; thence along the first stream to the junction aforementioned ; thence along a valley running due south from the said junction to a point about 700 yards distant ; thence in a north-westerly direction to a point on the top of a rise about 1,200 yards distant ; thence in a straight line to the first-mentioned point.

5. For the township of Victoria, a strip of land half-a-mile in width lying immediately to the west of the gunpowder magazine, and extending from the Macheke River to the Chekoto range of hills.

6. For the township of Gwelo, a triangular piece of ground within the reserved lands around Gwelo. It is bounded south by the Watershed Block along its boundary running from its joint beacon with Kanuck westwards to another beacon 1,518 Cape roods distant, bounded north-westwards by a line about 1,350 roods in length to the Inoculation Station, and bounded north-eastwards by a line from the first-mentioned beacon to the Inoculation Station, and about 1,400 roods in length. This piece of ground is called the Inoculation Camp.

7. For the township of Bulawayo that portion of the commonage bounded on the west and north by the Bulawayo-Mafeking and Gwelo railway lines, on the east by the road known as "Hillside Avenue," on the south to the limits of the commonage and Hillside, known at "Napier's Lease," approximately 4,750 acres in extent.

SCHEDULE "B."

Areas set apart for depasturing and quarantining of animals for slaughter :—

SALISBURY.—Description of the area.—A piece of land, 400 acres in extent, situated on the Makabusi River, below Maggio's plot, towards the southern boundary of the Salisbury commonage.

BULAWAYO.—Description of the area.—That piece of fenced land situated on the Bulawayo commonage between the railway line, to the south, and the Solusi Road, adjoining and to the south-west of the Government dipping tank, in extent 1,000 acres, more or less.

GWELO.—Description of the area.—Starting from a point where the Ingwenia Road crosses the railway, along this road past the sanitary stables to a point a quarter of a mile west, thence in a line parallel with the railway to the Gwelo River, thence along the river to the commonage beacon No. 11, thence in a straight line to the Shamrock road where it is intersected by the Scout's Spruit, thence along the Shamrock road to where it joins Main Street extension, along this to the railway line, and down this to the starting point.

UMTALI.—Description of the area.—Starting from a point at the south-east corner of the farm “Devonshire” and south-west of “Waterfall,” up the stream to where it is joined by the stream commonly known as Rifle-butt Spruit, and up this spruit to a point 300 feet below Paulington Bridge. Thence almost due north on the west of Penhalonga Road to the sanitary pits and from the sanitary pits to the Cemetery, thence due west to the “Devonshire” line and along this line south to south-west corner beacon of “Waterfall.”

SELUKWE.—Description of the area.—A piece of fenced land, in extent about 300 acres, situated on the farm “Sebanga” and adjacent to the township of Selukwe.

PENHALONGA.—Description of the area.—A piece of land bounded as follows :—To the northward by a line starting from the south-east beacon of the hotel stand to the south-west and south-east beacons of Crawford's butchery. To the eastward from the south-east beacon of Crawford's butchery to the northern boundary of the Penhalonga Proprietary Mines' ground. To the southward along the northern boundary line of the Penhalonga Proprietary Mines' ground. To the westward from the north-west beacon of the Penhalonga Proprietary Mines' ground to the south-east beacon of the hotel stand.

VICTORIA.—Description of the area.—A strip of land, half-a-mile in width, lying immediately to the west of the gunpowder magazine, and extending from the Macheke River to the Chekoto range of hills:

SCHEDULE “C.”

I,
residing at
in the district of in the
..... Colony, do solemnly and sincerely
declare that the animals enumerated below are free from any contagious
disease, including scab, and have not been in contact with any infected
animals within six months from date hereof, and that to the best of my
knowledge and belief such animals in travelling to* Station
will not come in contact with any animals amongst which scab or any other
contagious disease has existed during that period; further, that such animals
were thoroughly disinfected by dipping on, and
will enter Southern Rhodesia within ten days of having been dipped.

And I make this solemn declaration conscientiously believing the same to
be true.

.....
Declared to at on this day
of before me

.....
Resident Magistrate, Government Veterin-
ary Surgeon, Scab Inspector, or Police
Officer of district from which animals are
being sent.

Number and general description of animals being sent

Owner's Name and Address.....

Place in Southern Rhodesia to which animals are being sent

* Station within Colony of origin.

CERTIFICATE ISSUED UNDER PROVISIONS OF SECTION I, GOVERNMENT NOTICE No. 295 OF 1908.

I This is to certify that the animals enumerated below are, in my opinion, free from any destructive disease, including scab, and to the best of my knowledge and belief have not been in contact with any infected animals nor come from, or through, a locality where any such disease is known to exist or has existed for twelve months from date hereof.

Date

Place

.....
Signature of Government Veterinary Surgeon

Number and general description of animals.....Pigs,Sheep, ..
.....Goats.

Place from which animals are to be sent.....
.....

Owner's Name and Address

Place in Southern Rhodesia to which it is desired to send the animals

No. 110 of 1908.

Department of Agriculture,

Administrator's Office,

Salisbury, 16th April, 1908.

IMPORTATION OF CATTLE.

UNDER and by virtue of the powers conferred on me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel and repeal so much of the Regulations published under Government Notice No. 187, dated the 26th of July, 1906, as relate to the importation of cattle from the Colony of the Cape of Good Hope and the United Kingdom of Great Britain and Ireland, and make the following provisions in lieu thereof:—

1. The importation of cattle may be permitted from the Colony of the Cape of Good Hope and the Orange River Colony on the following terms and conditions:—

- (1) A permit shall be required from the Chief Inspector which may contain such conditions as shall from time to time appear expedient.
- (2) Applications for permission to import shall be in the form "A" attached hereto, and accompanied by a declaration in the annexed form "B."
- (3) The importation of cattle with more than two permanent central incisor teeth shall not be permitted.
- (4) All importations shall be by rail, and for the purposes thereof Bulawayo shall be regarded as the port of entry.
- (5) All cattle imported in terms of these Regulations shall on arrival at Bulawayo, Salisbury, or Umtali be removed to a place of quarantine under the supervision of an Inspector of Cattle, there to be submitted to such examination and tests as the Chief Inspector may direct. If such examination or tests disclose the existence of any destructive disease the cattle shall be immediately destroyed and the carcasses thereof disposed of in such manner as a Government veterinary surgeon may authorise or require. The Chief Inspector may permit of any examination or tests as aforesaid being dispensed with in the case of cattle in transit by rail for any place beyond the boundaries of Southern Rhodesia.
- (6) All expenses or losses incident to quarantine, examination, testing or destruction as aforesaid shall be borne by the owner of the cattle.

2. The importation of cattle from the United Kingdom of Great Britain and Ireland may be permitted under the following terms and conditions :—

- (1) Importation shall be through and direct from the coast ports of the Cape Colony, and there shall be a consignment note or other satisfactory evidence that cattle so imported have come direct from Great Britain or Ireland.
- (2) The provisions of sub-sections (5) and (6) of section 1 hereof shall apply to importations in terms of this section.

3. No person shall import cattle in terms of these Regulations except for his own use, provided however that permission may be granted to import for others on the applicant disclosing the name of the person or persons for whom he proposes to act.

4. Any person introducing cattle in contravention of these Regulations, or failing to comply with any conditions attached to permits to import, or furnishing applications, declarations, or other necessary documents known to be false in any material particular, or failing to comply with all lawful directions as to quarantine, examination, testing, destruction or disposal of carcasses, shall be liable to a fine not exceeding £20 for each animal in respect of which such offence shall have been committed, and in default of payment to imprisonment with or without hard labour for any period not exceeding six months, unless higher or greater penalties shall have been provided for such offences by the "Animals Diseases Consolidation Ordinance, 1904," provided however that the penalties imposed by these Regulations shall not exempt any cattle from destruction in terms of the aforesaid Ordinance.

W. H. MILTON,

Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,

Treasurer.

ANNEXURE "A."

APPLICATION FOR CATTLE IMPORTATION PERMIT.

GOVERNMENT NOTICE No. 110 OF 1908, SECTION 1 (2).

1. Applicant's Name and Address.....
 2. Number and Class of Cattle to be imported.....
 3. Area or Farm and District where Cattle are at present located.....
 4. Area or Farm and District to which Cattle are to be moved.....
- Applicant's Signature.....
- Date
- Application
- Permit No.

ANNEXURE "B."

I,residing on the farm
 in
 do solemnly and sincerely declare that the animals enumerated below have been in my possession since birth, and that lungsickness, pleuro-pneumonia or other contagious or infectious disease has not existed amongst any of my

cattle, nor on my farm, nor among any cattle with which these animals have been in contact within the last four years, and that these animals have never been exposed for sale in any public market or stock fair, nor been in contact with strange cattle, and that to the best of my knowledge and belief such cattle in travelling to.....Station (*i.e.*, Station where cattle are to be trucked) will not come into contact with any animals amongst which lung sickness or any other contagious or infectious disease has existed during that period.

And I make this solemn declaration conscientiously believing the same to be true.

Declared to at.....on this.....
day of....., before me

.....
Resident Magistrate for the district of

.....
Number of Animals,Bulls.....Heifers, Breed.....

Seller's Name and Address.....
.....

Purchaser's Name.....

Place in Southern Rhodesia to which animals are being sent.....

No. 60 of 1909.

Department of Agriculture,

Administrator's Office,

Salisbury, 1st April, 1909.

IMPORTATION OF CATTLE.

UNDER and by virtue of the powers vested in me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel and repeal Government Notice No. 124 of 1908, and do hereby declare and make known that, notwithstanding anything to the contrary elsewhere provided, the importation of cattle for *bona fide* slaughter purposes may be permitted into the Umtali district from the adjoining Portuguese territory, under the following terms and conditions:—

- (1) The importation and disposal of cattle, introduced in terms of these regulations, shall be under the absolute control and direction of the local Veterinary Surgeon or other duly appointed officer, and shall be regulated by the requirements of consumption.
- (2) The importation shall be by rail only, and all cattle shall be detrucked at the slaughter enclosure and immediately confined therein.
- (3) All cattle admitted to the slaughter area shall be immediately branded with the letters "V.D."
- (4) All cattle admitted to the slaughter area shall be slaughtered within ten days of their admission, and under no pretext whatever shall cattle so admitted be permitted to leave the said area alive; all such cattle shall, after admission to the said area, be considered as likely to be infected with disease, and if found wandering outside the said area or in possession of any person, may be destroyed under an order of the Chief Inspector or Controller of Stock.
- (5) No meat shall be removed from the said area without special permission unless it is entirely free from skin and ears.

- (6) The hides of animals slaughtered in the said enclosure shall be immediately immersed in an approved insecticide for a period of not less than twelve hours, and shall not be removed from the said enclosure unless accompanied by a certificate signed by a Veterinary Surgeon that they have been satisfactorily disinfected and dried.
- (7) Any person contravening the provisions of these regulations or the instructions or directions of the local Veterinary Surgeon or other duly authorised official, given in terms of these regulations, shall be liable, in respect of each offence, to a penalty not exceeding £20, or, in default of payment, to imprisonment, with or without hard labour, for a period not exceeding three months, unless where more severe or heavier penalties have, by the aforesaid Ordinance, been expressly provided.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 61 of 1909.

Department of Agriculture,
Administrator's Office,

Salisbury, 1st April, 1909.

UNDER and by virtue of the powers in me vested by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel and withdraw the areas described in Government Notice No. 295 of 1908, as areas set apart for the depasturing and quarantining of animals for slaughter in the township of Umtali and at Penhalonga, and in lieu thereof substitute the following:—

UMTALI.—*Description of Area.*—A piece of fenced land situated on the old Darlington Farm section of Umtali commonage.

PENHALONGA.—*Description of Area.*—A piece of fenced land situated on plot No. 2, Imbeza Plots.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 87 of 1909.

Department of Agriculture,
Administrator's Office,

Salisbury, 28th April, 1909.

IMPORTATION OF CATTLE.

UNDER and by virtue of the powers conferred on me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel Annexure "B" referred to in sub-section (2) of section 1 of Government Notice No. 110 of 1908, and in place thereof do substitute the following which shall, from

date of publication hereof, be the form required to accompany Annexure "A," also referred to in aforementioned sub-section, viz.:—

ANNEXURE "B."

I, residing on the farm
..... in
do solemnly and sincerely declare that the animals enumerated below have been in my possession since birth, and that lungsickness, pleuro-pneumonia or other contagious or infectious disease has not existed amongst any of my cattle, nor on my farm, nor among any cattle with which these animals have been in contact within the last four years, and that these animals have never been exposed for sale in any public market or stock fair nor been in contact with strange cattle, and that to the best of my knowledge and belief such cattle in travelling to.....Station (*i.e.*, Station where cattle are to be trucked) will not come into contact with any animals amongst which lungsickness or any other contagious or infectious disease has existed during that period.

And I make this solemn declaration conscientiously believing the same to be true.

Declared to at.....on this.....
day of....., before me.....
Resident Magistrate for the district of.....
Number of Animals,.....Bulls.....Heifers, Breed.....
Seller's Name and Address.....
Purchaser's Name.....
Place in Southern Rhodesia to which animals are being sent.....

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council

F. J. NEWTON,
Treasurer.

—————
No. 96 of 1909.

Department of Agriculture,
Administrator's Office,

Salisbury, 13th May, 1909.

IMPORTATION OF CATTLE.

UNDER and by virtue of the powers conferred on me by the "Animal Diseases Consolidation Ordinance, 1904," I do hereby authorise the importation from the Province of East Friesland, Germany, of cattle required for *bona fide* breeding purposes, provided, however, that such importation shall be subject to the provisions of Government Notice No. 110 of the 16th April, 1908, relating to the importation of cattle from the United Kingdom of Great Britain and Ireland.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 268 of 1907.

Department of Agriculture,
The Treasury,

Salisbury, 26th December, 1907.

REMOVAL OF CATTLE FOR SALE.

NOTWITHSTANDING anything to the contrary contained in the Regulations published under Government Notices Nos. 188 of 1906 and 217 of 1907, I, under and by virtue of the powers conferred upon me by the "Animals Diseases Consolidation Ordinance, 1904," do hereby provide as follows:—

1. The assembly of cattle for purposes of sale by auction or otherwise may be permitted at such places and under such conditions as the Chief Inspector may from time to time prescribe.

2. The movement of cattle into the province of Mashonaland and the fiscal division of Gwelo from other places in Southern Rhodesia may be permitted under such conditions as the Chief Inspector may from time to time prescribe.

3. The granting of permits for the purposes of Sections 1 and 2 hereof and the nature of the conditions to be attached thereto shall be at the absolute discretion of the Chief Inspector.

4. Any person contravening the provisions of these Regulations or the conditions attached to permits issued thereunder shall be liable to a fine not exceeding £20 or in default of payment to imprisonment with or without hard labour for a period not exceeding three months.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 356 of 1908.

Department of Agriculture,
Administrator's Office,

November, 1908.

MOVEMENT OF CATTLE INTO MATABELELAND.

NOTWITHSTANDING anything to the contrary contained in the Regulations published under Government Notices Nos. 188 of 1905 and 217 of 1907, I, under and by virtue of the powers conferred on me by the "Animals Diseases Consolidation Ordinance, 1904," do hereby provide as follows:—

1. The movement of cattle from the Province of Mashonaland into the Province of Matabeleland and from the Fiscal Division of Gwelo into other parts of Matabeleland may be permitted under such conditions as the Chief Inspector may from time to time prescribe, provided, however, that such movement shall not be permitted in respect of cattle imported from the country to the North of the Zambesi River until they shall have first remained for a period of at least twelve months in the Province of Mashonaland or the Fiscal Division of Gwelo.

2. The granting of permits for the purposes hereof, and the nature of the conditions to be attached thereto, shall be at the absolute discretion of the Chief Inspector.

3. Any person contravening the provisions of these regulations, or the conditions attached to permits issued thereunder, shall be liable to a fine not exceeding £20, or, in default of payment, to imprisonment with or without hard labour for a period not exceeding three months.

By Command of His Honour the Administrator in Council.

No. 47 of 1909.

Administrator's Office.

Salisbury, 15th March, 1909.

IMPORTATION OF CATTLE FROM NORTH OF THE ZAMBESI.

UNDER and by virtue of the powers vested in me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel Government Notices Nos. 152 of 1908 and 318 of 1908.

1. The introduction of cattle *via* Feira is hereby prohibited, save and except such cattle for which permits have been issued prior to date hereof.

2. Slaughter cattle may be imported from North-Western Rhodesia up to and including 14th May, 1909, provided that:—

- (a) the permission of the Chief Inspector of Cattle or of a Government Veterinary Surgeon be first had and obtained;
- (b) all such cattle shall be conveyed by rail *via* Victoria Falls, which is hereby declared a port of entry for cattle, and be carried to the station or siding nearest to the centre of consumption;
- (c) on arrival at their destination, such cattle shall be subject to the Regulations controlling the movements and disposal of slaughter cattle.

3. On and after 15th May, 1909, the importation of cattle of all descriptions shall be and is hereby prohibited from all places north of the Zambesi River.

4. Cattle for general purposes may be imported from North-Western Rhodesia from 1st April, 1909, until 14th May, 1909, provided that:—

- (a) the permission of the Chief Inspector be first had and obtained;
- (b) all cattle imported shall be introduced by rail only and *via* the Victoria Falls, and shall be branded before entry with the letters "N.Z." on the near shoulder;
- (c) all cattle shall on entry be taken to a prescribed area to the north of the Gwaai River, where they shall remain in quarantine for such period as may be ordered by the Chief Inspector of Stock, being not less than six weeks from the date of their arrival;
- (d) no cattle shall be removed from the quarantine area until examined and certified to be free of disease by a Government Veterinary Surgeon;
- (e) all cattle removed from the quarantine area as aforesaid shall be taken direct to their destination and shall not be moved therefrom for a period of twelve months from the date of arrival thereat.

5. Every application for permission to introduce cattle under section 4 shall be accompanied by a certificate in the form of Annexure "A" attached to this Notice.

6. Any person introducing any cattle from North-Eastern or North-Western Rhodesia in contravention of these Regulations, or submitting any certificate false in any material particular, or refusing or neglecting to submit cattle introduced to proper inspection and tests, or failing to quarantine properly such cattle when introduced, shall be liable to a fine not exceeding £10 for every animal in connection with which the offence complained of is committed, and in default of payment of any fine inflicted, to imprisonment with or without hard labour for any period not exceeding three months, and the cattle in regard to which the complaint has been laid and proved may, under the written direction of the Administrator, be destroyed without compensation.

7. For general information it is notified that steps are being taken to prosecute investigations into the nature of the supposed destructive disease which there is reason to believe exists in East and Central Africa, and that the continuance or withdrawal of the above restrictions is largely dependent upon such decision as may be arrived at. The present step is therefore to be regarded as purely a precautionary one.

W. H. MILTON,

Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,

Treasurer.

ANNEXURE "A."

I,.....residing on the farm....., in the district of....., in the territory of North-Western Rhodesia, do solemnly and sincerely declare that the animals enumerated below have been in my possession for twelve months, and that I purchased them from....., residing in the district of..... in the territory of North-Western Rhodesia, on the.....day of.....(as facts permit), and that no case of lung-sickness or other contagious disease has existed amongst any of my cattle or on my farm, or other cattle with which they have been in contact, during the past two years, and that, to the best of my knowledge and belief, such cattle, in travelling to Victoria Falls, will not come in contact with any animals amongst which lung-sickness or other contagious disease has existed during that period.

And I make this solemn declaration conscientiously believing the same to be true.

Declared to at.....on this.....day of
.....before me.

.....
Magistrate, District Commissioner, or
J.P., North-Western Rhodesia.
District.....

No. of animals.....bulls.....
.....cows.....heifers.....
.....bullocks.....

Breed.....

Seller's name.....

Purchaser's name.....

Place in Southern Rhodesia to which animals are being sent.....

No. 39 of 1909.

Department of Agriculture,

Administrator's Office,

Salisbury, 11th March, 1909.

MOVEMENT OF CATTLE, PROVINCE OF MATABELELAND.

1. UNDER and by virtue of the powers vested in me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel and withdraw the Regulations promulgated by Government Notices Nos. 188 of 1906 and 216 of 1907, and declare the following to be of full force and effect in lieu thereof within the province of Matabeleland, exclusive of the district of Gwelo, as described and defined by section 4 (c) of the Southern Rhodesia Boundary Regulations Amendment Regulations, 1898, which is hereby declared to be an area infected with a destructive disease, and is hereinafter called the said area.

2. The movement of all cattle within the said area is prohibited save and except

(a) on permission granted by the local Cattle Inspector;

(b) within the boundaries of any single farm where such cattle are depastured;

- (c) within an area of land enclosed by a substantial fence ;
- (d) within a radius of four miles from any native kraal situate within the boundaries of any native location or reserve, and as hereinafter further provided.

3. The movement of cattle for slaughter, grazing, *bona fide* farming, mining or breeding purposes, or for private milk supplies, shall be permitted under the written authority of an official thereto duly authorised, subject to the following terms and conditions :—

- (a) that the written permission of owners, occupiers, or managers of all occupied land, and in the case of native reserves, of the Native Commissioner of the district over which such cattle shall pass, is first obtained ; provided that in the event of such owners, occupiers, managers or Native Commissioners refusing to grant permission, the Controller of Stock may direct the issue of a permit of removal, if satisfied that the necessary permission is withheld without good and sufficient cause ;
- (b) that such cattle shall, before being moved, be thoroughly disinfected by dipping or spraying, to the satisfaction of the officer issuing the permit, and at the expense of the owner of such stock, and, if intended for slaughter, shall where possible be branded, under the supervision of the officer issuing the permit, with the letters " V.D " on the near side of the neck ;
- (c) that cattle intended for slaughter shall, on arrival at destination subject to the terms of clause (d) hereof, be immediately taken to the prescribed quarantine area and there be quarantined and confined, and, where not branded in terms of clause (b) hereof, be similarly branded under the supervision of a duly authorised officer ;
- (d) that all cattle intended for slaughter brought to their destination and not disinfected by dipping or spraying, in terms of clause (b) hereof, shall be immediately taken to the public dipping station and there be thoroughly dipped or sprayed before being taken to the quarantine area ;
- (e) that all cattle admitted to the quarantine area shall be slaughtered within twenty-one days of the admission and only be permitted to leave the area for the purpose of being driven to the abattoir for slaughter ; all such cattle shall, after admission to the said area, be considered as likely to be infected with disease, and if found wandering outside the said area, or in possession of any person, may be destroyed under an order of the Chief Inspector or Controller of Stock. 2

4. The movement of working cattle may be permitted under the following conditions only :—

Within the said area from private farms, mines and trading stations to any centre of consumption, or to or from a railway station or siding, or to and from any other farm under the permit of a duly authorised officer, which permit shall fully set forth the route to be traversed ; provided that no permit shall be issued until the person applying for the same shall produce the written consent of owners, occupiers or managers of occupied lands proposed to be traversed, and in the case of native reserves, of the Native Commissioners, and that such cattle, before being moved, be thoroughly disinfected by dipping or spraying at the expense of the owner, and to the satisfaction of the officer issuing the permit ; provided, further, that in the event of such consent being unreasonably withheld, the Controller of Stock may direct the issue of a permit.

5. All applications for the removal of cattle from one native district to another shall be submitted for the approval of the Government Veterinary Surgeon at Bulawayo and the Cattle Inspector of the district to which the removal is to be made.

6. All permits granted under the provisions of this notice shall specify the number and brands of cattle, route to be traversed, and time allowed for each journey. Any breach of these or other conditions endorsed on the permit by the issuing officer shall be deemed a contravention of these Regulations, in terms of section 9 hereof.

7. All veld-fed animals within the limits of the various commonages or townlands, or other centres where there is a common grazing ground and upon which public dipping tanks have been established, shall be dipped therein at least once every fourteen days; provided that the Controller of Stock may, on the advice of the Veterinary Department, direct the temporary suspension of this Regulation, for such reasons as he may regard as sufficient.

8. The following charges shall be paid at the time of dipping by the owner of the cattle or other animals required to be dipped under these Regulations, in respect of any dipping done at a public dipping tank :—

For Cattle (over six months)	.. ..	3d. per head.
„ Horses and Mules	.. ..	3d. „
„ Calves (six months and under)	.. ..	2d. „
„ Small Stock	.. ..	½d. „

with a minimum charge of 6d. for any number of animals not aggregating such fee under tariff.

9. Any disinfecting by spraying required to be done under these Regulations shall be carried out with an approved insecticide by the owner of the animals so sprayed; provided that the Inspector may, at his discretion, carry out such disinfection, with the assistance of and at the entire cost of the owners of the animals sprayed, the cost of such disinfection being payable at the time of the spraying.

10. Any person contravening any of the provisions of these Regulations shall, upon conviction, be liable, in respect of each offence, to the fines and punishments prescribed by the Ordinance; and, in the cases where no special punishment is provided, to a fine not exceeding £20; or, in default of payment, to imprisonment, with or without hard labour, for any period not exceeding three months, unless the penalty be sooner paid.

W. H. MILTON.

Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON, |

Treasurer

No. 30 of 1909.

Administrator's Office.

Salisbury, 25th February, 1909.

RABIES.

WHEREAS it has been shown to me that it is expedient to take measures to prevent the spread of rabies in the undermentioned district: Now therefore, under and by virtue of the powers in me vested by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby authorise and direct that all dogs in the undermentioned areas, in the native district of Gutu, with the exception of six male dogs at each kraal (to be exempted at the discretion

of the Native Commissioner of the district), shall be destroyed by shooting, poisoning, or other approved methods, and that the carcases of all dogs so destroyed shall be burnt or buried at a depth of not less than three feet below the surface :—

Within a radius of six miles from Tshitsa's Kraal.

Within a radius of six miles from Mount Rosa (Mr. Swartz's store).

W. H. MILTON,

Administrator.

By command of His Honour the Administrator in Council.

P. D. L. FYNN,

Acting Treasurer.

No. 45 of 1909.

Administrator's Office,

Salisbury, 13th March, 1909.

RABIES.

UNDER and by virtue of the powers vested in me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel and withdraw the Regulations promulgated by Government Notices Nos. 42, 156 and 228, of 1907, except as to acts done or penalties incurred at the date of the coming into force of this Notice, and except as to officers appointed under Government Notice No. 286 of 1906, whose appointments shall remain valid for the purposes of this Notice, and declare the following Regulations shall have full force and effect in lieu thereof :—

1. All and several the various native districts of Southern Rhodesia are hereby declared to be areas infected with the disease of rabies.

2. Subject to any penalty a dog owner may have incurred under Government Notice No. 285 of 1906 by not registering his dog before the first day of February, 1907, the owner of any unregistered dog liable to registration may register the same at any time after the said date.

3. On and after the date of this Notice becoming operative the owner of every dog arriving at the age of three months, and the owner of every dog imported into Southern Rhodesia after that date, shall register such dog with an official appointed for that purpose, provided that this provision shall not apply to any municipality, township or similar area in which provision for registration exists and is duly enforced.

4. A registration badge shall be issued for each and every dog registered, and the said badge shall be attached to a proper and sufficient collar to be supplied by the owner, which must be placed and kept on each dog registered.

5. A fee to cover the cost of registration and supply of badge in the amount of sixpence will become demandable and payable on registration of each dog.

6. Any dog found at large after the date of this Notice becoming operative, not having and bearing a registration badge duly issued by an official or the local authority, may be summarily destroyed by any person.

7. Any Magistrate, Police Officer, Native Commissioner, Government Veterinary Surgeon, or other official vested with the performance of functions under the "Animals Diseases Consolidation Ordinance, 1904," may, on it

appearing to him that any dog or other animal is showing symptoms which justify investigation as to whether such dog or animal is suffering from rabies or not, order the proper detention, isolation and control of such dog or animal, either in the hands of the owner or at some other suitable place.

8. Should any dog show symptoms which lead to the suspicion that such dog may be suffering from rabies, the owner thereof shall forthwith notify the fact to the nearest official vested with powers under these Regulations, who shall immediately report the same to the Chief Veterinary Surgeon, and shall either destroy the said dog or isolate and secure it for further observations.

9. On its appearing that any animal is actually suffering from rabies, any of the above-mentioned officials may order the destruction of such animal, or may himself destroy it, and may further take control of or destroy, if deemed necessary, any animal which has been in contact with a rabid animal or an animal suspected of being rabid.

10. The carcases of all animals destroyed on account of their being infected with rabies shall be thoroughly burnt by the person or official destroying them, save that such parts as may be required for scientific investigation may be retained under proper precautions. In any case in which a human being has been bitten by a rabid animal, the head of such animal shall, if possible, be taken and sent to the nearest veterinary official.

11. In the event of any outbreak of rabies occurring, all owners of dogs within fifteen miles of such outbreak, or such other area as may be fixed, shall, on notification by any of the above-mentioned officials, or by Government Notice in the *Gazette*, at once place and keep their dogs in a safe enclosure, or chained up, for a period of not less than six weeks from such notification, or such other period as may be fixed, but may be taken out for exercise if kept on a chain or leash held by the person exercising them.

12. Any dog found at large in a notified area at any time during the prescribed period may be summarily destroyed by any person, and the owner or person responsible for the custody of such dog shall be liable to the penalty hereinafter laid down.

13. Any person contravening any of the above Regulations, or failing to carry out any of the provisions thereof, shall be liable, on conviction, to a fine not exceeding £10 for each offence; or, in default of payment, to imprisonment, with or without hard labour, for a period not exceeding one month.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 249 of 1908.

The Treasury,

Salisbury, 27th August, 1908.

PROTECTION OF TREES.

IT is hereby notified for public information that any person who shall cut down for use as fuel, or for any other purposes than *bona-fide* farming, mining or manufacturing purposes, or cause to be so cut down the "Wild Westeria" (native name M'Pakwa or M'poea) tree, will be liable to prosecution for contravention of the provisions of the Forest and Herbage Preservation Act 1859, and upon conviction to a fine not exceeding £100, or to imprisonment with or without hard labour for a term not exceeding six months, or to such fine and imprisonment, or to such imprisonment without a fine.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator,

F. J. NEWTON,
Treasurer.

SUMMARY OF "THE GAME LAW CONSOLIDATION ORDINANCE, 1906," AND REGULATIONS ISSUED THEREUNDER.

The Ordinance divides the game into three distinct classes, described as follows:—

- (a) Birds and Small Buck.
- (b) Bushbuck, Hartebeest, Impala, Lechwe, Pookoo, Roan and Sable-Antelope, Sitatunga, Tasessibe, Waterbuck and Wildebeest.
- (c) Royal Game, which includes Eland, Elephant, Giraffe, Gemsbok, Hippopotamus, Inyala, Koodoo, Ostrich, Rhinoceros, Springbuck and Zebra.

The shooting season for Class "A" is as follows:—

In Maskenaland:

Birds from 1st May to 30th September.

Small Buck from 1st May to 31st October.

In Matabeleland:

Birds and Small Buck from 1st May to 31st October.

To shoot in Class "A" a licence costing £1 per annum is required. This entitles holders to hunt in both Provinces during the open season.

Class "B."—The season opens on 1st July and closes on 30th November in both Provinces. The licence fee is £25 for non-residents and £5 for persons having their domicile in Southern Rhodesia. This licence entitles the holder to shoot up to 15 head, which number may be increased to a total of 25 upon payment of a further sum of £15 in the one case and £5 in the other.

Class "C."—The Administrator may, if he is satisfied that the animals are actually required for scientific purposes, grant to the holder of a game licence permission to shoot or capture any of the species included in this Class. Such permit requires a £5 stamp. Applications in writing, together with proof of *bona fides*, should be addressed to the Secretary for Agriculture.

Game for Farming Purposes.—Permits are granted for the capture of Eland, Ostrich, Zebra or other animals for the purposes of breeding or farming. Such permits require a stamp of the value of £1 and remain in force for six months. Application, accompanied by a sworn declaration, should be made through the Secretary for Agriculture or the Civil Commissioner of the district.

Game Injuring Crops.—The occupier of any cultivated land or any person acting under the authority of such occupier, may at any time destroy game actually doing damage in such land.

Elephants on occupied farms. *Melsetter.*—The destruction of Elephants when found on occupied farms on the High Veldt in Melsetter District is authorised. (*Vide* Government Notice No. 284 of 1908).

Tsetse Fly, Hartley District.—Government Notice No. 40 of 1909 withdraws the Close Season for Class "B" in a certain area in the Hartley District until 30th June, 1910, and transfers from Class "C" to Class "B" Eland, Koodoo, and Zebra so far as that area is concerned. This means that these species may be shot by Residents of Southern Rhodesia on a £5 licence, and by non-Residents on a £25 licence, in this area, at any time up to the 30th June, 1910, in addition to the game described in Class "B."

Game in Class "A" may be hunted in the close season ending 30th April, 1909, on private land in the Melsetter District by holders of a licence.

Protected Areas.—No game may be hunted or killed within the limits of the Commonages or Townlands of Salisbury, Bulawayo, Umtali and Melsetter; within a radius of two miles of the Court House, Gwelo, or within the Urungwe Game Sanctuary, as defined by Government Notice No. 237 of 1906.

"Locust Birds" are strictly protected, *vide* Government Notice No. 121 of 1907.

Export of Game.—No living Game or the Eggs of any Game birds may be exported beyond the limits of Southern Rhodesia without a written permit.

Shooting on Private Land.—A licence does not entitle the holder thereof to shoot on private land without the permission of the landowner.

No. 9 of 1907.

NORTH-WESTERN RHODESIA.

WHEREAS there is reason to believe that certain diseases in cattle exist in the Territory of Southern Rhodesia, the Bechuanaland Protectorate, German West Africa, Portuguese West Africa, and Portuguese East Africa, and it is therefore expedient to take measures to prevent the spread of such diseases to North-Western Rhodesia.

Now, therefore, under and by virtue of the powers in me vested by Section 2 of His Excellency the High Commissioner's Proclamation, No. 18 of 1906, bearing date the 31st day of July, 1906, I do hereby order and declare and make known as follows:—

1. That Government Notices, No. 2 of 1902, and No. 11 of 1906, are hereby withdrawn, and the following Regulations substituted:
2. The introduction of any bull, ox, cow, heifer or calf or the meat of any such animals, into the Territory of North-Western Rhodesia from the Territories of Southern Rhodesia, the Bechuanaland Protectorate, German West Africa, Portuguese West Africa, and Portuguese East Africa, is prohibited until further notice.
3. No person shall introduce into the Territory of North-Western Rhodesia from the Territories aforesaid, any horse, mare, gelding, mule, donkey, sheep, goat or pig, horns or skins, or any kind of vehicle, wagon gear, trek gear, or harness, without having first obtained the special permission in writing of a District Commissioner, Civil Commissioner, or other person thereto authorized by me; and such animals, horses, skins, vehicles, gear, or harness, shall enter the Territory of North-Western Rhodesia at such place, and under such conditions as regards quarantine and disinfection, as shall be ordered by the person issuing such written permission as is above described.
4. Whenever any conditions as to quarantine, isolation, disinfection or otherwise, are imposed, such conditions shall be fulfilled at the sole risk and expense of the owner, consignee, or other person concerned.
5. All live stock imported into the Territory by rail by way of Victoria Falls and Livingstone, shall be inspected at Livingstone Station, and, whenever disinfection is ordered, shall be disinfected at that Station.
6. In the case of live stock consigned to any point on the railway line north of Livingstone Station, the officer authorized to issue the written permission aforesaid shall further order the disinfection of the truck or horse-box in which such stock is being conveyed. Such disinfection shall be carried out at the expense of the owner or consignee of the stock, or other person concerned therein.
7. Consignors and importers of live stock shall give not less than seven days' notice of the arrival of such stock at Livingstone Station. Such notice shall be given to the Civil Commissioner, Livingstone, or to such other official as may hereafter be appointed.

ROBERT CODRINGTON,
Administrator.

By command of His Honour the Administrator,

HENRY RANGELEY,
Acting Secretary.

Administrator's Office,
Livingstone, North-Western Rhodesia
30th September, 1907.

No. 5 of 1909.

Department of Agriculture,

Administrator's Office,

Salisbury, 7th January, 1909.

AFRICAN COAST FEVER.

UNDER and by virtue of the powers conferred upon me by the "Animals Diseases Consolidation Ordinance, 1904," I do hereby cancel Government Notice No. 207 of 1908, and amend Government Notice No. 217 of 1907, by extending the provision of section 6 thereof to the movement of working cattle in the native district of Ndanga, and that part of the native district of Victoria lying to the north of the Ndanga main road.

W. H. MILTON,

Administrator.

By command of His Honour the Administrator in Council.

P. D. L. FYNN,

Acting Treasurer.

Ordinance No. 1, 1908.]

[Promulgated 18th December, 1908.

SOUTHERN RHODESIA.

AN ORDINANCE TO FURTHER AMEND THE LAW WITH REFERENCE TO THE BRANDING OF STOCK.

BE IT ENACTED by the Administrator of Southern Rhodesia, with the advice and consent of the Legislative Council thereof, as follows:—

1. Sections 7, 8, 9, 10 and 13 of "The Brands Ordinance, 1900" (hereinafter referred to as the said Ordinance), and so much of any other law as is repugnant to or inconsistent with the provisions of this Ordinance are hereby repealed; but such repeal shall not be taken to affect the validity of any brand duly registered at the time of coming into operation of this Ordinance.

2. No person shall have the right of claiming to have any special form or design of brand allotted to him, but any person requiring a brand shall, on application, and on payment of the prescribed fee, have a brand allotted to him by the Registrar.

3. Section 23 of the said Ordinance is hereby amended by the addition of the following sub-section:—

"(6) The system and procedure to be observed by the Registrar in allotting brands."

4. This Ordinance may be cited for all purposes as the "Brands Ordinance Amendment Ordinance, 1908."

Above is the text of the Ordinance passed during the last Session of the Legislative Council, the object of the Ordinance being to so amend the Brands Ordinance, 1900, as to permit of the system of branding known as the "Three piece system."

Following are the regulations promulgated under the Ordinance, and which brought the new system of registration into operation on 7th January, 1909

No. 391* of 1908.

Department of Agriculture,

Administrator's Office,

Salisbury, 17th December, 1908.

BRANDS ORDINANCE AMENDMENT ORDINANCE, 1908

UNDER and by virtue of the powers vested in me by "The Brands Ordinance, 1900," as amended by the "Brands Ordinance Amendment Ordinance, 1908," I do hereby cancel and withdraw the Regulations published under Government Notice No. 204 of 1900, and declare the following shall be in force in lieu thereof, from and after the 7th January, 1909:—

1. The Registrar of Brands shall have his office in the Agricultural Department. With the exception of the Magistrate of Salisbury, the Magistrate in each district of Southern Rhodesia, and the Assistant Magistrate in each sub-district, shall be a deputy Registrar of Brands for the magisterial district or sub-district to which he is appointed. The offices of the Deputy Registrars of Brands shall be the offices of the several Magistrates.

2. (a) The form of application for registration of a brand shall be that marked "A" in the schedule attached to this Notice.

(b) The form of a certificate of registration shall be that marked "B" in the said schedule.

(c) The form of a transfer of a brand from one registered proprietor to another shall be that marked "C" in the said schedule.

(d) The form of a certificate of such transfer shall be that marked "D" in the said schedule.

3. Each Deputy Registrar of Brands shall keep a register, in the form of Schedule "E" hereto, of all brands allotted within his district under the provisions of the Ordinance.

4. Save as hereinafter provided, every registered brand shall consist of two letters and a numeral of plain and uniform pattern; and the first of the letters shall indicate the magisterial district or sub-district in which the holding is situate on which the brand is to be used, and shall be placed above the numeral and letter comprising the brand, so as to be in triangular form.

5. One brand and no more shall be allotted to any person in one magisterial district or sub-district.

6. The size of the characters branded on stock shall not be more than three inches in height nor more than two inches in width.

7. An applicant for a brand shall be allotted the next vacant brand assigned to the district in which he is located, as set forth in Schedule "F" hereof.

8. Each Deputy Registrar shall keep a list of brands assigned to his district, for the inspection of applicants for brands.

9. There shall be payable to the Registrar or Deputy Registrar:—

(a) For every separate registration of a brand, 5s.

(b) For every transfer of a brand, 5s.

10. All brands shall be imprinted on stock as follows:—

(a) In the case of horses, mules or donkeys, the first brand shall be imprinted either on the near side of the neck or near rump, and any second or subsequent brand shall (where there is sufficient space for such purpose) be imprinted on the same part of such animal, and at a distance of not less than one and a half inches from and directly underneath last imprint, according to the table herein set forth.

* Republished with corrections.

Where there is not sufficient space for the purpose, then such second or subsequent brand shall be imprinted on the part of such animal next in order, according to the following table :—

- i. Off Neck or Rump (or Thigh) ;
- ii. Near Shoulder (or Top of Arm) ;
- iii. Off Shoulder (or Top of Arm).

(b) In the case of cattle, the first brand shall be imprinted on the near rump or thigh of the animal, and every second or subsequent brand shall be imprinted at a distance of not less than one and a half inches from and directly underneath the brand last imprinted, according to the following table :—

- i. Off Rump (or Thigh) ;
- ii. Near Shoulder (or Top of Arm) ;
- iii. Off Shoulder (or Top of Arm).

(c) In the case of sheep and goats, the first brand shall be imprinted on the near shoulder, and all second or subsequent brands in the following order :—

- i. On Near Side or Ribs ;
- ii. Near Rump (or Thigh) ;
- iii. Off Shoulder ;
- iv. Off Side or Ribs ;
- v. Off Rump (or Thigh).

(d) In the case of ostriches :—

- i. On near Thigh ;
- ii. On Off Thigh.

11. Each proprietor of a registered brand shall have the right, in addition to imprinting his brand in the manner above prescribed, to place such brand on the ears of such animals by punching, tattooing or ear-rivets.

12. The owner of any brand may surrender the same, and the Registrar shall, on receipt of notice thereof, cancel the registration by notice in the *Gazette*.

13. When it appears to the Registrar, upon the report of a Deputy Registrar, Native Commissioner, or Cattle Inspector, that a registered brand is not in use, he may cause notice thereof to be given to the owner thereof, calling upon him to show cause why the same should not be cancelled ; if cause is not shown to the satisfaction of the Registrar within six months after such notice, he may cancel the brand.

14. No brand which has been surrendered or cancelled shall be re-allotted until a period of five years from such surrender or cancellation has elapsed.

15. The Registrar shall, at the end of each quarter in every year, or as soon thereafter as possible, transmit for publication in the *Gazette* a statement, in the form of Schedule "E" hereto, of all brands registered under the Ordinance up to the last day of such quarter.

16. The Registrar shall allot a brand to every public pound already or hereafter to be established, and shall register the same.

The first character of every such brand shall be a diamond, and the second the dominant letter of the magisterial district or sub-district, and the third a numeral, the dominant letter to be placed above the diamond and numeral so as to form a triangle ; and the Poundmaster shall, on sale of any stock impounded therein, brand the same with such brand on the portions and in

the order prescribed in these Regulations, to show that the said brand is the last brand at that time imprinted on such stock; and any Poundmaster who shall fail to comply with the provisions of this section shall on conviction be liable to a fine not exceeding £5.

W. H. MILTON,
Administrator

By command of His Honour the Administrator in Council

P. D. L. FYNN
Acting Treasurer.

SCHEDULE A.

APPLICATION FOR A BRAND

Brands Ordinance, 1900, and Brands Ordinance Amendment Ordinance, 1908.

To the Deputy Registrar,

Herewith ^{we}_I enclose the prescribed fee of.....and request that you will allot and register a brand for the holding or place mentioned in the Schedule below.

Name of Applicant in full.	Address	District or Sub-district for which Brand is required.
-------------------------------	---------	---

Date.....

Applicant.

SCHEDULE B.

Brands Ordinance, 1900, and Brands Ordinance Amendment Ordinance, 1908.

No.....

.....day of.....

I hereby certify that the brand shown in the diagram at foot hereof was duly registered on the date and as the brand of the person(s) therein set forth in the schedule hereto.

Owner(s)' full Name.	Address.	District for which Brand is registered.	Date of Registration.
-------------------------	----------	---	--------------------------

Fee paid.....

Diagram of Brand.....

(Signed).....
Registrar of Brands.

SCHEDULE C.

MEMORANDUM OF TRANSFER OF BRAND.

Brands Ordinance, 1900, and Brands Ordinance Amendment Ordinance, 1908.

We,being the registered owner(s) of the
 I,of and hereby
 request that the same may be registered accordingly. And we
, the second undersigned, do also hereby agree to the said
 transfer and enclose the fee therefor (..... Shillings).

Witness..... Owner.

Address.....

Witness..... Transferee.

Address.....

Brand.	Name and Address of Registered Owner of Brand.	District where Brand is Registered.	No. of Certificate.	Date of Registration.

SCHEDULE D.

CERTIFICATE OF TRANSFER.

Brands Ordinance, 1900, and Brands Ordinance Amendment Ordinance, 1908.

No..... Date.....

This is to certify that the brand shown at the foot hereof was this day
 transferred from..... of
 to..... of

Fee paid £..... Dated this..... day of

Registrar of Brands.

Brand.	Transferee's Name and Address.	District where Brand is to be used.	No. of Certificate.	Date of Registration.

SCHEDULE E.

DISTRICT BRANDS REGISTER.

Brands Ordinance, 1900, and Brands Ordinance Amendment Ordinance, 1908.

Name of Registered Owner.	Address.	District for which Brand is Registered.	Particulars of Brand.		
			Brand Allotted.	No. of Certificate.	Date of Registration.

SCHEDULE F.

Brands allotted to different magisterial districts and sub-districts.

Dominant Letter.	District denoted.					Brands Series.	
A	Salisbury	..	..	..	..	A 2 A	and variations.
						A A 2	'
B	Bulawayo	..	..	..	..	B 2 A	"
						B A 2	"
C	Charter	..	..	..	..	C 2 A	"
						C A 2	"
E	Belingwe	..	..	..	..	E 2 A	"
	(Sub-district of Bulawayo)	..	..	..	..	E A 2	"
F	Mangwendi	..	..	..	..	F 2 A	"
	(Sub-district of Salisbury)	..	..	..	..	F A 2	'
G	Gwelo	..	..	..	..	G 2 A	"
						G A 2	"
H	Hartley	..	..	..	..	H 2 A	"
						H A 2	'
J	Bubi	..	..	..	..	J 2 A	'
	(Sub-district of Bulawayo)	..	..	..	..	J A 2	"
K	Wankie	..	..	..	..	K ¹ 2 A	"
	(Sub-district of Bulawayo)	..	..	..	..	K A 2	"

Dominant Letter,	District denoted.	Brands Series
L	Lomagondi	L and variations.
	(Sub-district of Salisbury)	2 A L
M	Mazoe	M
	(Sub-district of Salisbury)	2 A M
N	Bulilima-Mangwe	N
	(Sub-district of Bulawayo)	2 A N
P	Mafungabusi	P
	(Sub-district of Gwelo)	2 A P
R	Chibi	R
	(Sub-district of Victoria)	2 A R
S	Melsetter	S
		2 A S
T	Tuli	T
		2 A T
U	Umtali	U
		2 A U
V	Victoria	V
		2 A V
W	Gwanda	W
	(Sub-district of Bulawayo)	2 A W
X	Makoni	X
	(Sub-district of Umtali)	2 A X

NOTE.—Reserved for distribution (if required), all brands with the numerals as dominants, thus—2 AA to 9 ZZ. Permanently reserved, the letters O and I (to be used exclusively as numerals). The letters O, Y and Z are unallotted. The letter D reserved for Government Departments.

No. 51 of 1909.

Department of Agriculture,
Administrator's Office, †

Salisbury, 25th March, 1909.

BRANDS ORDINANCE AMENDMENT ORDINANCE, 1908.

UNDER and by virtue of the powers vested in me by the "Brands Ordinance 1900," as amended by the "Brands Ordinance Amendment Ordinance, 1908," I do hereby declare that the following districts have been added to

those shown in Schedule F of Government Notice No. 391 of 1908, and brands allotted as under :—

Dominant Letter or Numeral.	District Denoted.	Brands Series.
Y	Inyanga	Y 2A and variations Y A2
Z	Insiza	Z 2A and variations Z A2
2	Matopo	2 AA and variations 2 ZZ
Q	Selukwe	Q 2A and variations Q A2

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

No. 52 of 1909.

Department of Agriculture,
Administrator's Office,
Salisbury, 25th March, 1909.

CONDITIONS UNDER WHICH GOVERNMENT VETERINARY SURGEONS' SERVICES ARE AVAILABLE TO THE PUBLIC.

1. **O**N and after 1st April, 1909, the services of Government Veterinary Surgeons will be available to the public, free of charge for the following purposes only :—

(1) Attending and giving professional advice in connection with the following diseases, viz. :—Anthrax, Contagious abortion, East Coast Fever, Epizootic Lymphangitis, Foot and Mouth Disease, Farcy, Foot-rot, Heartwater, Glanders, Intestinal parasites amongst sheep and goats, Liver Disease, Lung-sickness, Osteo Porosis, Malarial Catarrhal Fever (blue tongue), Rabies, Redwater, Rinderpest, Scabies, Sponziekte (quarter evil), Swine Fever, and any other diseases which way in future be scheduled in terms of section 3 sub-section 18 of the "Animals Diseases Consolidation Ordinance, 1906." Attending to cases of disease amongst live stock which, though not of a contagious or infectious character, may be of general public importance.

(2) Applying tests in regard to Glanders, Tuberculosis, or any other disease against the introduction or spread of which tests are applied under regulations.

(3) Inoculations against the following diseases —

Horsesickness, Lungsickness, Anthrax, Quarter Evil, Redwater, Malarial Catarrhal Fever (blue tongue). A fee to cover the cost of serum and virus will be charged.

2. The following charges shall be made and payable for services rendered by the Government Veterinary Surgeons in other cases, viz. :—

- | | | | |
|---|---|----|----|
| (1) For every professional visit within three miles of his office or residence | £ | s. | d. |
| | 0 | 5 | 0 |
| (2) For every professional visit beyond such distance | 0 | 10 | 6 |
| plus an additional charge of 2s. 6d. per hour whilst engaged in such visits or £2 2s. a day of 24 hours ; | | | |
| (3) For advice given at the Veterinary Surgeon's office, for each animal, per visit | 0 | 2 | 6 |
| (4) The following to be charged in addition to visiting fees :— | | | |
| a. For every examination as to soundness, each | 1 | 1 | 0 |
| b. For castration, horses, each | 1 | 1 | 0 |
| c. „ bulls „ | 0 | 5 | 0 |
| d. „ donkeys „ | 0 | 10 | 6 |
| e. For parturition cases, mares, each | 2 | 2 | 0 |
| f. For parturition cases, cows, each | 1 | 1 | 0 |
| g. For other operations, according to nature, from 5s. to £2 2s. | | | |

3. Double the above fees will be payable for services rendered on Sundays, public holidays, and between the hours of 7 p.m. and 7 a.m.

4. Applicants for the services of Government veterinary surgeons must at their own cost provide the necessary transport for the conveyance of these officers from, and back to, their residence or nearest railway station.

5. Farmers and owners of stock throughout the country frequently telegraph for a Government veterinary surgeon to be sent to attend an animal which has been taken seriously ill. It is rarely possible to comply with these requests at once, as the veterinary surgeon may be engaged on duty which he cannot leave, or is at such a distance from where his services are required that he can hardly be expected to arrive in time to be of any service in an urgent case. Hence much valuable time is wasted, the owner of the animal is dissatisfied, and the veterinary staff discredited. To obviate this, in all cases where veterinary advice and assistance are required, the owner should telegraph to "Veteran," Salisbury, with prepaid reply, the nature of the complaint that the animal is suffering from, giving as full and accurate a description of the symptoms as possible. This will enable the Chief Veterinary Surgeon to telegraph advice at once and state whether he is able to arrange for veterinary attendance on the case or not, and save valuable time, which is always of importance in acute cases.

6. The services of Government veterinary surgeons will only be available for private work with the consent of such officers, and when such work does not interfere with their official duties, or when the services of a private practitioner are not available.

7. As the arrangement of allowing Government veterinary surgeons to attend to private cases is intended purely for the benefit of farmers and stock-owners who may wish to obtain professional advice, no responsibility whatever will be accepted for any loss of stock, etc., which may result from the negligent treatment or advice, or wilful default, of any Government veterinary surgeon.

8. All fees collected in terms of these Regulations are payable to the Treasury through the local Receiver of Revenue.

W. H. MILTON,
Administrator.

By command of His Honour the Administrator in Council.

F. J. NEWTON,
Treasurer.

Departmental Notices.

As Assistant Magistrates have not been appointed to all the Districts and Sub-districts to which a series of Brands have been allotted, the registration of Brands in such Districts will be carried out by the Officers enumerated in the following notice, which was published for the information of stock-breeders :

BRANDS ORDINANCE AMENDMENT ORDINANCE, 1908.

With reference to the regulations published under Government Notice No. 391 of 1908, it is hereby notified for public information that the undermentioned Officers are the Deputy Registrars and Registrars of Brands for the Districts or Sub-districts set opposite their names.

Districts and
Sub-districts.

Deputy Registrar.

Bubi	Assistant Magistrate, Inyati.
Bulalima Mangwe	Assistant Magistrate, Yegwani.
Charter... ..	Magistrate, Enkeldoorn.
Chibi	Magistrate, Victoria.
Mafungabusi	Magistrate, Bulawayo.
Makoni... ..	Magistrate, Umtali.
Mangwendi	Registrar of Brands, Salisbury.
Wankie	Magistrate, Bulawayo.
Tuli... ..	Magistrate, Gwanda.

For the information and guidance of Stockowners the following notes and directions are published :—

1. All brands registered under the old system prior to the 7th January, 1909, will continue to be current, except in cases where the registered owners have ceased to use them ; all obsolete brands will in due course be cancelled.

2. Printed forms of application for brands have been supplied to every Deputy Registrar of Brands, *i.e.*, to the Magistrates and Assistant Magistrates of the Districts and Sub-districts to which a series of brands have been allotted.

Applicants for brands should fill in the form, and forward, with the registration fee, to the Deputy Registrar of the District for which the brand is required.

On receipt of the application the Deputy Registrar will allot the next brand vacant on the list, and will issue a

Registration Certificate, after which the applicant will be entitled to the exclusive use of the brand.

3. All brands will consist of two letters of the alphabet and a numeral of plain and uniform pattern, and will be in the form of a triangle, the dominant letter of the District forming the apex, and a numeral and letter forming the base, thus for the district of Salisbury the first brand allotted would be "A"

2 A

4. The maximum size of a brand is fixed at three inches in height, and two inches in width; the object of limiting the size of brand is to prevent the use of brands which make an unsightly impression, causing unnecessary pain to the animal, and damage to the hide.

Stockowners are urged to make their brands as small as possible consistent with clearness, and with as fine a burning edge as possible, to insure a sharp, clear impression on the hide.

5. Rules for branding.

These are clearly set forth in Section 10 of the regulations which has been printed on the back of the Registration Certificate for the guidance of owners.

The order of placing the brand as laid down in the regulations must be strictly followed.

The object in prescribing the order in which brands are placed on an animal is to insure that the owner of lost, straying, or stolen stock being readily traced. If brands are placed indiscriminately on an animal which has changed hands frequently, it is not possible to trace the registered owner without considerable delay ensuing, whereas if brands are impressed in proper rotation, the owner of the brand last impressed on the animal can be readily traced.

6. The owners of registered brands have the right to, in addition to imprinting their brands in the order prescribed, place such brand on the ears of animals by punching, tattooing, or ear-rivets.

7. Registered owners of brands have the right to surrender their brands, and brands surrendered will be cancelled. In cases where it is found that registered brands are not being used, the Registrar may call upon the owner to show cause why it should not be cancelled, and if cause is not shown, such brand may be cancelled. No brand which has been surrendered or cancelled can be re-allotted for 5 years from date of cancellation.

8. With a view of ensuring accuracy and uniformity in the making of branding irons, special arrangements will be made with local firms of blacksmiths to supply branding irons at a contract price.

An applicant for a brand may, on depositing the cost of branding iron, receive from the Deputy Registrar a requisition for a branding iron to be supplied by the contractor.

DESTRUCTION OF WILD CARNIVORA, ETC.

It is hereby notified for public information that the rewards for the destruction of wild carnivora, etc., will be paid only on the scale and conditions herein set forth.

2. Rewards will be paid as follows:—

For each Lion	...	£3	0	0
„ Leopard	...	1	0	0
„ Cheetah	...	1	0	0
„ Wild Dog	...	0	10	0
„ Crocodile, of not less than 3 ft. in length	...	0	10	0

3. Rewards will be paid to Europeans by the Magistrate or Native Commissioner, and to natives by the Native Commissioner of the district, within three months of the date upon which the animal is killed, on a declaration made in the form of the annexure hereto.

4. In proof of destruction, applicants for rewards will be required to produce and surrender, in the case of Lion, Leopard or Cheetah, the skin with the tail not severed, and in the case of Crocodile or Wild Dog, the unskinned head.

5. The skins and heads of animals for which rewards have been paid shall be the property of the Government, and shall be disposed of in such manner as may be decided on.

GOVERNMENT STALLION FOR PUBLIC STUD.

The Stallion “Robber Knight” has been returned to Salisbury, where his services for a limited number of mares will be available until further notice, free of charge.

Applications, giving full particulars of the mares to be

served, should be addressed to the Veterinary Department, Salisbury, where further particulars can be obtained.

The owners of mares brought to stud will have to make all necessary arrangements for attendance, stabling, and feeding of their animals, as the Department can take no responsibility whatever.

As the number of mares which can be served is very limited, the Veterinary Officer in charge is instructed to refuse service if any mare submitted is suffering from any hereditary disease, or is of an inferior type.

Pedigree.—"Robber Knight" by "Sir Hugo," *ex* "Fritters" by "St. Simon."

The Chief Veterinary Surgeon requests that all Official Correspondence be addressed to the

CHIEF VETERINARY SURGEON,
Box 123,

SALISBURY.

Communications referring to various Departmental matters are frequently addressed to him personally, with the result that they remain unopened and unattended to in case he is absent on duty.

VAPORITE.

The new preparation, "Vaporite," suitable for the destruction of cut-worms, wire-worms, white ants, and other soil-infesting pests, can be obtained from the Department in quantities of not less than 2 cwt. at 17s. 6d. per cwt. Application to be accompanied by remittance covering cost and transport charges.

TOBACCO SEED.

The following varieties of tobacco seed may now be obtained by planters from this Department at the prices named, which include postage. Orders must be accompanied by remittance.

	per oz.	
	s.	d.
Turkish, Yenedje, Xanthi, Aya Solouk	1	6
Turkish, Cavalla	1	6

TOBACCO SEED BED COVERING.

A large supply of calico for covering tobacco seed is now available. It can be obtained from the Anglo African Trading Company at Salisbury, Bulawayo, and Gwelo. Price 2½d. per square yard.

RHODESIA TURKISH TOBACCO.

The Bulawayo Warehouse asks us to urge upon growers the importance of properly curing their leaf, and to see that the mid-rib is thoroughly dried.

The leaf should preferably be graded and baled "Caloupe" style (*i.e.*, on strings) by the growers on the farm. Where they are unable to do this properly the leaf should be sent in on strings, in boxes or bales, under very slight pressure.

The leaf should be in good condition as regards moisture, so as to enable it to be handled without breakage.

STRYCHNINE.

Stockowners can obtain a limited quantity of strychnine for the destruction of carnivora at a cost of 3s. 6d. per ounce.

Publications obtained at the Agricultural Department, Salisbury:—

CULTURE OF TOBACCO.

This book, by G. M. Odlum, containing the History of the Tobacco Plant from seed to manufacture, can be obtained from this Department. Price 1s., post free 1s. 4d.

"Tree Culture in Southern Rhodesia." By P. B. S. Wrey, A.M.I.C.E. Price 9d.

"Farm Science." Issued by the Harvester Co., of America. Price 3d.

A complete file of "The Rhodesian Agricultural Journal" since its commencement; particulars regarding sale of which may be obtained from the Editor.

Copies of "Money in Lucerne" may be obtained from the Agricultural Department, Salisbury, at the price of 1s. each; remittance to accompany order.

WATER BORING.

It is hereby notified for the information of farmers that the Government has secured the services of Mr. H. M. Oakley, for a period of three months, for the purpose of advising as to the prospects of obtaining a sufficient supply of water by boring, and the best sites for sinking boreholes.

Mr. Oakley has arrived, and those wishing to avail themselves of his advice, for which no charge will be made, should at once communicate either with the

Secretary of their Farmers' Association, the Civil Commissioner of the district, or the undersigned.

ERIC A. NOBBS,

Director of Agriculture.

MULBERRY CUTTINGS.

Mulberry Cuttings, *f.o.r.* Salisbury 5s. per 100.—Apply, Manager Experimental Nursery, Salisbury.

INQUIRIES.

Farmers are reminded that in all matters relating to agricultural practice, advice is given by the Department in response to inquiries made by them individually.

In particular subjects, such as disease among crops, insect pests and the like, specimens should be sent to the Department, together with as full details as possible.

Advice will be given to farmers who want farm machinery and appliances, seeds, trees, etc.

All communications should be addressed in the first instance to the Director of Agriculture, Salisbury.

NOTICE.

The Manager of the Beira, Mashonaland, and Rhodesia Railways informs us that, on and after the 1st of June, 1909, until further notice, irrigation plant and machinery will be carried at half third class rates, when the consignment is accompanied by a declaration from the consignee or the consignor, as the case may be, that the plant or machinery is actually to be used for irrigation purposes.

Editorial Notices.

Original subscribers to the *Journal*, who have complete sets of the earlier numbers to dispose of, are requested to communicate with this office, as numerous enquiries for the first and second volumes, now out of print, have been received.

Subscriptions to the *Journal* (5s. annually), issued bi-monthly, should be addressed to the Director of Agriculture, Agricultural Department, Salisbury. Only communications relating to the literary department should be addressed to the Editor, and if an answer is required in

the pages of the *Journal*, should reach this office not later than the 15th of the month preceding publication. Subscribers are requested to notify immediately the non-delivery of the *Journal*.

Farmers requiring latest market prices for produce and live stock at Kimberley, Johannesburg, Bulawayo, Gwelo, Salisbury, Umtali, and Beira, can obtain same from this office by next mail or prepaid wire.

Advertisements will be accepted from *bona fide* farmers wishing to effect sale, purchase or exchange of produce, live stock, or farm implements, at a minimum charge of 2s. 6d. per insertion of 20 words. Extra words will be charged for at the rate of 1s. for every ten words.

Applications for Advertisement Rates to be made to J. Kapnek, Sole Advertisement Contractor for "Rhodesian Agricultural Journal," P.O. Box 91, Salisbury and Box 45 Bulawayo.

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Farmer's Advertisements.

PERSIAN Ram Lambs for sale, from pure bred stock imported from Cape Colony. Apply H. E. Light, c/o. Meikle Bros., Salisbury.

FOR SALE.

PERSIAN RAM LAMBS.

A limited number of three quarter bred acclimatised Ram Lambs for disposal, eight months old; £2 each, Marandella Station.—Apply H. Hay Scorrer, Land Settlement Farm, Marandella.

ADVERTISEMENTS.

MESSRS. MACLAURIN BROS.

(Breeders of Pedigree Friesland Cattle.)

Orders are being booked for young pure-bred Friesland Bulls bred from pedigree sire and dam.

These Bulls are bred and reared on the Farm Pomona, near Salisbury, a Redwater area, and thus farmers may obtain highly bred animals without the usual risks attending importation and immunising.

Particulars of pedigree and prices will be obtained on application to Messrs. McLaurin Bros., Salisbury.

FARMERS' AGENCY.

Farms, Plots and Livestock. Agents for Scott Bros.' Carts, Buggies, Spiders, Gigs, Scotch Carts, Trolleys and Harness, all the best. Glennie's Ox and Mule Wagons, Trolleys, Scotch Carts and Wagon Wood. American Gigs, Wheels, Hand Carts, Bee Hives, Bucksails, Harness, Trek Gear, Tools, Implements, McDougall's Dips, Gates, Fencing, Tents.

3" Hand Jumper Drill, complete £15.

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Pure Bred Yorkshire and Berkshire Pigs.

Persian Sheep and Angora Goats.

Milk Cows and Breeding Heifers.

Pairs Scotch Cart Oxen ; Span Young Oxen.

Hardy Young Bulls of all breeds.

Mares, Donkeys, Farm Mules.

Trees all descriptions. Seeds all kinds.

Swarms of Bees in Hives complete.

American Mammoth Bronze Turkeys.

Splendid White Leghorn Poultry.

Also Silver and White Wyandottes and Buffs.

Silver Grey Dorkings and Plymouth Rocks.

First-Class Pekin and Indian Runner Ducks.

Pigeons all breeds and Good Canaries.

Fox and Irish Terriers and other Puppies.

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P.O. Box 73, SALISBURY.





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